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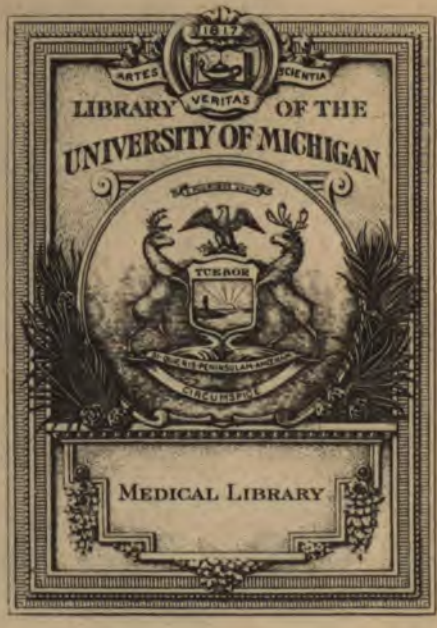
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EXHIBITING

A CONCISE VIEW

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IN

MEDICINE, SURGERY, AND PHARMACY.

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Communications have been received from Dr Abercrombie, Dr J. Macdonnell, Mr B. Granger, Mr J. Millar, and Mr W. Scott.

The following publications have been sent to us for review:

A Treatise on Inflammation of the Mucous Membrane of the Lungs; to which is prefixed, an Experimental Inquiry respecting the Contractile Power of the Blood-vessels, and the Nature of Inflammation. By Charles Hastings, M. D. Physician to the Worcester Infirmary. 8vo. pp. 420. London, 1820.

A Synopsis of the various kinds of difficult Parturition, with Practical Remarks on the Management of Labours. By Samuel Merriman, M. D. F. L. S. Lecturer on Midwifery. Third edition. pp. 323. With five Plates. 8vo, London, 1820.

An Elucidation and Extension of the Harringtonian System of Chemistry, explaining all the phenomena; without one single anomaly. By Robert Harrington, M. D., Author of "Fire and Planetary Life;" from which all the newest, important, nautical tables, have been taken.—Premium: Anxious to promote discussion and examination of my important system, I have lodged L. 100 in the hands of Messrs Stephenson, Rimington, and Company, Bankers, London, as a premium for a complete, fair, and full refutation of it. pp. 170. 8vo. London, 1819.

Letters to the President of the associated Apothecaries and Surgeon-Apothecaries of England and Wales, on the Present State of the Practice of Physic and Surgery. First Series. Intended to give a comparative view of particular systems of medical education; to consider the separation of medicine from surgery; to estimate the claims of the general practitioner; and to propose a more respectable mode of remunerating his attendance. 8vo. pp. 77. London, 1820.

Nouveau Journal de Medecine, redigé par MM. Beclard, Chomel, Hippolyte Cloquet, Jules Cloquet, Orfila, et Rostan.

Revue Medicale, Historique et Philosophique, par MM. Bally, Bellangen, F. Berard, Bertieu, Bousquet, Delpech, Desportes, Double, Dunal, Esquirol, Gasc, Giraudy, Jadioux, Laurent, Nicod, Prunelle, Rouzet, 1re anné 11e et 111e Livr.

ERRATA.

Page 1, line 22, and page 50, lines 1 and 6, *for* various *read* varicose.
413, line 41, *for* impressions *read* imperfections.
414, line 7, *for* flimsy *read* filmy.
415, line 29, *for* liver *read* laver.
416, line 36, *for* like spinage *read* like boiled spinage.

In p. 267 we should have mentioned that the beautiful skeletons of the birds and fishes, engraved by Mr Mitchell from drawings by Mr Greville, were prepared by Dr Willis, who has presented to the Museum of the University some specimens of his skill in that art, superior to any thing we have ever seen.

The sentence in Dr M'Keever's case of Ovarian Abscess, beginning in the sixth line of p. 369, should be altered as follows:

"On examination per vaginam, the os uteri was found to have a perfectly healthy feel; the uterus itself, as far, at least, as could be ascertained by such an examination, did not appear to be larger than in the unimpregnated state."

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The following publications have been sent to us for review.

Observations on the Use and Abuse of Mercurial Medicines, in various Diseases. By James Hamilton, jun. M. D. 8vo. Edinb. 1819.

A Sketch *(Analytical)* of the History and Cure of Contagious Fever. By Robert Jackson, M. D. 8vo. London, 1819.

Lectures on the Blood, and on the Anatomy, Physiology, and Surgical Pathology of the Vascular System of the Human Body, delivered before the Royal College Of Surgeons of London, in the Summer of the year 1819. By James Wilson, F. R. S. 8vo. London, 1819.

Surgical Essays. By Astley Cooper, F. R. S. and Benjamin Travers, F.R.S. Part II. 8vo. London, 1819.

The Army Medical Officer's Manual upon Active Service; or Precepts for his Guidance in the various situations in which he may be placed; with Observations on the Preservation of the Health of Armies upon Foreign Service. By J. G. V. Millingen, M.D. 8vo. London. 1819.

Remarks on the Treatment of some of the most prevalent Varieties of Inflammation of the Eye; with Cases. By Thomas Whately. 8vo. London, 1819.

Report of the State of the Institution for the Cure and Prevention of Contagious Fever in Newcastle and Gateshead, for the 14th year, ending April 1819. 8vo. Newcastle, 1819.

Medical Topography of Upper Canada. By John Douglas, Assistant Surgeon, 8th Regiment. London, 1819.

Practical Illustrations of Typhus Fever, of the common Continued Fever, and of Inflammatory Diseases. By John Armstrong, M. D. Third edition. 8vo. London, 1819.

A Treatise on Aneurism, with numerous additions; and a Memoir on the Ligature of the Principal Arteries of the Extremities, with Engravings; translated from the Italian, with additional cases, and an Appendix. By John Henry Wishart. Second Edition. 8vo. Edinburgh, 1819.

Essay on two Mineral Springs, recently discovered at Harrogate, with Remarks on the Springs of Thorp, Arch, and Ilkey. By Adam Hunter, M. D. 8vo. London, 1819.

A Series of Engravings representing the Bones of the Human Skeleton, with the Skeleton of some of the Lower Animals. By Edward Mitchell, Engraver, Edinburgh; the Explanatory References by John Barclay, M. D. Lecturer on Anatomy. Parts I. and II. Imperial or Royal 4to. Edinb. 1819, 1820.

The veteran Dr Jackson, Inspector of Military Hospitals, author of several esteemed works on Fever and the diseases of the West Indies, has been ordered by Government to proceed to Cadiz, to investigate the nature of the fever now raging in that city.

Dr Somerville, Principal Inspector of Military Hospitals, has been appointed physician to Chelsea College, vice Dr Mosely, deceased, author of the work on Tropical Diseases, on Cow-Pox, and other interesting subjects.

A work is now in course of preparation, by John Hennen, M. D., F. R. S. E. Deputy Inspector of Military Hospitals, which will embrace the whole substance of his "Observations" published in 1818: With many additional cases and observations on the subject of Hospital Police and Arrangement; on Syphilis; on Small-Pox and Vaccination; on the detection of fictitious diseases, and other subjects of the first importance to Hospital Surgeons, both in Military and Civil Life; illustrated with numerous plans and drawings. It is supposed that this work will not extend beyond two moderate sized octavo volumes, and that it will be ready for publication early in the ensuing year.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1820.

PART I.

ORIGINAL COMMUNICATIONS.

I.

RESEARCHES ON THE PATHOLOGY OF THE INTESTINAL CANAL.

PART I.

By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Surgeons of Edinburgh.

AFTER all that has been written on this subject, the pathology of the intestinal canal still presents an interesting field of investigation. When we consider the delicacy of its structure, its great extent, and the important functions which it has to perform, we expect to find its diseases numerous and dangerous, and in their nature often obscure and intricate. Externally it is a serous membrane, and liable to the diseases incident to that particular structure; internally it is a mucous membrane, and liable to the diseases of mucous membranes; and it is, besides, through its whole extent, a muscular organ, upon the healthy action of every part of which it constantly depends for the proper discharge of its functions. It is six times the length of the body to which it belongs, and connected with it there are the delicate organs concerned in digestion and absorption, which have diseases peculiar to themselves.

The acute diseases of the intestinal canal seem to arrange themselves under two heads. (1.) Diseases affecting it as a

muscular organ, or derangements of its peristaltic motion. (2.) Inflammatory diseases. Under the former division, we are led chiefly to the important subject of Ileus; under the latter, to a class of diseases, which, though they agree in the general characters of inflammation, vary remarkably according to the particular structure in which they are seated, the serous, the mucous, or the muscular coats. The organic diseases, and several chronic affections of the intestines, are so connected with one or other of these leading classes, that the consideration of them must be very much combined.

Part I.

Of Derangement of the Peristaltic Motion of the Intestinal Canal.

The peristaltic motion of the intestinal canal consists of a series of alternate contractions and dilatations, to which nothing analogous exists in any other part of the body. In regard to the various conditions of the muscles concerned in it, there are several circumstances that deserve particular attention.

When healthy intestine is empty, it seems to contract entirely, so as to assume the appearance of a solid cord, white and corrugated. Nearly the whole tract of intestine may occasionally be seen in this state in the bodies of infants, who before death had been much purged, or had been affected with diarrhœa without disease of the coats of the intestine. A portion of intestine, again, that has been the seat of inflammation and gangrene, though it may be empty, does not contract in this manner, but falls flat, presenting a broad surface like an empty bag. (See Case 4th.) The contraction, therefore, in the former case, is a muscular action which is lost in the latter; it is that property of muscles, by which they contract when nothing opposes their contraction. It has been called by physiologists the tonic power of muscles: it is not a mere shrinking by elasticity, but a muscular action of great power, as may be seen on the surface of the body, in the force with which muscles contract when their antagonists are paralysed.

When intestine is thus empty and contracted, it is probable that the muscular fibres are at rest; and the presence of some contents is probably required to bring into action the peristaltic motion. One portion of the canal then contracts upon the matter contained in it, propelling it forward into another which is thus distended, and then contracts in its turn, propelling the contents forward into a third portion, and so on. Now various actions take place in this process. When a portion of

intestine, which I shall call No. 1., propels its contents forward into a portion, No. 2., which is supposed to be empty, it must contract with such force as not only to propel the contents, but also to overcome the tonic contraction of No. 2. Again, when No. 2. contracts and propels the contents into another portion, No. 3., by what power are they prevented from returning backwards into No. 1.? It is probable, that though No. 1. and No. 3. are both in a state of contraction, they are nevertheless in a different condition, No. 3. being contracted merely by its tonic power, and No. 1. retaining, besides this, a degree of the actual force with which it had lately contracted in propelling the contents into No. 2., and being thus in a state less liable to be distended than No. 3. There are also circumstances which render it probable that relaxation to a certain extent takes place in the fibres of the lower part, while the peristaltic motion is going on in the healthy manner.* Thus in the healthy condition of the parts, the motion is propagated downwards, not perhaps in the simple manner which I here suppose, but in a manner sufficiently analogous to it, to answer the purpose of this illustration. In the actual condition of the function in a healthy body, a part does not probably empty itself at once, but by a succession of contractions, propelling forward its contents in small portions. There are other circumstances also by which the action is complicated, but they do not affect the case which I have given as an illustration, and which is perhaps precisely, or nearly that which occurs under the action of a purgative, and in certain diseases of the canal in which its action is morbidly increased.

Now this process is entirely a muscular action, and there are various circumstances by which it may be deranged. When the portion No. 1., for example, has contracted and propelled its contents into No. 2., if this does not contract in its turn, the matters will lodge in it as in an inanimate sac, and the process will be interrupted: the same will take place, if No. 2. does not contract with such power as to overcome the tonic contraction of No. 3. If No. 2., again, contracts with its regular power, while there exists some obstacle to the dilatation of No. 3., the contraction will dilate No. 1. instead of No. 3., and the action will be inverted. A remarkable example of this will be found in Case 19th, in which the action was propagated downwards, till it reached the extremity of the colon, where it was inverted by an organic cause impeding the dilatation, and thence regu-

* See Mr A. Cooper's account of the phenomena observed in a case of artificial anus. Treatise on Hernia, page 38.

larly propagated upwards till it terminated in a fit of vomiting, a certain proportion of the contents, however, being continued downwards, and discharged by the rectum in the natural way.

The causes, therefore, which may interrupt the peristaltic action, are principally referable to two heads. (1.) A part having its muscular power destroyed or weakened, so as to render it incapable of acting in unison with the other parts. (2.) A part being, from some cause, incapable of that degree of dilatation which is necessary for enabling it to propagate the action. Let us consider briefly each of these cases.

I. Suppose that the series of contractions and dilatations have gone on through successive portions of intestine, which I shall call Nos. 1, 2, 3, 4, and 5, and that No. 5. has its muscular power so diminished, as to be incapable of dilating No. 6.; an interruption will take place, and an accumulation of matter in No. 5. The healthy parts above are still acting, and propelling additional matter into No. 5., and if by this additional stimulus it shall be excited to contract with additional force, the interruption will be removed. If not, the healthy parts above will be excited by the interruption to increased contraction, and one of two consequences will probably follow. No. 5. being considered as an inanimate sac, by the increased impulse from above, the matters may be forcibly driven through it, so as to distend No. 6., and so continue the action, allowing No. 5. to contract and recover itself; or, if it fail in this, the increased impulse will only tend to increase the distention of No. 5. until it is distended beyond its power of contraction, or paralysed from over distention. Thus, I conceive, is formed a paroxysm of simple ileus, and the effects vary according to particular circumstances. From the part thus diseased, the action may be inverted and communicated upwards, or if the healthy parts above are loaded with contents, they may be thrown into still more violent action downwards. If this action should still fail in restoring the natural course of the function, the parts will be exhausted in their turn. The dilatation will extend to No. 4., and the parts above continuing to act, this also will be distended beyond its power of contraction, and so on. The appearances on dissection in fatal ileus correspond with these conjectures. The lower part of the canal is found empty, contracted, and healthy. This terminates abruptly at a certain point, and is succeeded by a portion distended to the greatest degree, loaded with feculent matter and flatus, in some cases quite thin and transparent, in others inflamed and gangrenous. From this portion, the distention is traced upwards, sometimes to the very commencement of the canal. The immense quantities of gas

which are found in the distended intestine in these cases, are probably separated from the stagnant matters contained in it, and, not being thrown off, must prove a powerful cause of distention.

II. Suppose the series of contractions and dilatations to be propagated downwards as before, and that, from some cause, No. 6 is rendered incapable of the same degree of dilatation as the other parts, though without being by any means actually obstructed.—The effect here will vary according to circumstances. From the state of the action in general, and the usual quantity of contents, it may happen that, in ordinary cases, no greater degree of dilatation is required than No. 6 is capable of transmitting, and the process will go on without interruption. But if, from an increased quantity of contents at a particular time, or an accidental accumulation of flatus, a greater degree of distention shall be communicated to No. 5 than No. 6 is capable of, then an interruption will take place in No. 5 in the same manner as in the former case,—and the parts above continuing to act, it will be in danger of being over distended. The interruption may be temporary,—may frequently take place, and be soon removed, until at length, from some cause which eludes our observation, it terminates in perfect ileus. This form of the disease is strikingly illustrated in Cases 9 and 10, in which it is to be particularly observed, that there was no mechanical obstruction. In such cases also, it is to be remarked, that a certain quantity of the contents may pass through, as occurred in Case 19, and probably in Case 9. In Cases 9 and 10, the cause was evidently of long standing. Cases 11 and 12 exhibit remarkable examples of the affection from causes of a more recent kind. This form of the disease may also arise from organic contractions of a mechanical nature, as in Cases 13 and 14, in which the contraction had gone on, producing little inconvenience, until it terminated at length in fatal ileus. This modification of the disease may also be fatal by gradual exhaustion, without perfect ileus, as in Cases 19 and 20.

In this manner, I conceive, is formed the paroxysm of ileus. The farther progress of the affection varies in different cases. After a certain period, the parts may recover their healthy relations, and the disease be removed,—or it may continue till an extensive portion has been paralysed by over distention, and the case probably becomes irremediable. There is reason to believe, that it may in this state be fatal, without farther disease; but the common progress of it is to inflammation and its consequences. We cannot explain this phenomenon; but we know, that all parts that are rapidly distended are liable to in-

flammation. We see it in the inflammation which attacks the distended urinary bladder, and the integuments covering certain tumours which have increased rapidly. We see the converse in the remarkable effect of collapse of the cornea in relieving inflammation of that organ.

The opinion which I have proposed in regard to the pathology of ileus, differs considerably from a doctrine which considers this disease as originating in spasm. According to this system, the parts which on dissection are found contracted, are supposed to be contracted by spasm, and, consequently, to be the primary seat of the disease. Many considerations induce me to doubt this hypothesis.

1. Though all muscular organs may be considered as liable to spasm, I think it very doubtful whether such fibres as those of the bowels are really affected by it in such a degree as to prove a cause of disease. Our knowledge of the pathology of such muscles must be derived chiefly from the urinary bladder, as this organ admits of a more correct knowledge of its condition under disease than any other internal muscular organ. Now, we are familiar with a state of the bladder in which it is distended beyond its power of contraction; but we have no reason to believe, that it is ever spasmodically contracted so as to resist distention. We talk of spasm of the stomach; but if the stomach were contracted by spasm, in the manner which this hypothesis supposes in regard to the intestines, its cavity would be so much diminished that very little could be received into it. But, instead of this, we find persons labouring under the affection which has received this name, swallowing hot water and other liquids in large quantities.

2. Spasm, even in powerful muscles, is generally of short continuance, and it is very uncommon to find it continuing for such a length of time as this hypothesis supposes. The only example, perhaps, is in trismus, in which very powerful muscles are concerned. It is certainly very doubtful whether such fibres as exist in the intestinal canal could contract with such force, and continue in powerful contraction for so long a time as would be required to constitute an attack of ileus.

3. A great extent of intestine, perhaps the lower half, may occasionally be found in this contracted state. It is not probable that such an extent should be at once contracted by this powerful spasm; and that the whole of this portion is not contracted by spasm, appears from the facility with which, in many cases, it admits of large quantities of fluid being thrown in by injection.

4. In fatal ileus, which has been going on for many days,

the contracted portion may be still found perfectly healthy, the morbid appearances, inflammation, adhesion, ulceration, and gangrene, being entirely confined to the distended portion.

5. That the distended part is really in a state of paralytic inaction, is probable, from the remarkable case (Case 12) in which the disease was seated so low, that the contracted part could be fully dilated by mechanical means, but without relieving the disease.

6. That spasmodic contraction is not the primary disease, is probable from many cases in which there is really no obstruction, but the bowels are freely moved at various periods of the complaint. (See Cases 1, 3, 8, and 9.)

From these considerations I am induced to believe that, in simple ileus, the proper seat of the disease is the distended portion,—that this portion has lost its power as a muscular organ, being distended beyond its power of contraction, and that the contracted part (which has probably been emptied by injections) is kept in that contracted and quiescent state by its tonic power, and the suspension of the action from above, by which, in the healthy condition of the parts, it would have been distended.

VARIETIES OF ILEUS.

It is probable that the morbid action at the commencement of an attack of ileus, is a derangement of the relation in muscular action, betwixt one part of the intestinal canal and another immediately adjoining, with which it ought to have acted in concert. When we endeavour to investigate the manner in which this derangement may take place, we find the disease appearing under three modifications.

1. Simple Ileus, without any organic affection.

2. Ileus, proceeding from an organic affection, but of such a nature that it acts by deranging the muscular action, without mechanical obstruction.

3. Ileus with mechanical obstruction.

Sect. I.—*Simple Ileus.*

Simple Ileus is to be viewed as the disease of a muscular organ, and originating in derangement of muscular action. The leading appearances which the fatal cases present to us are, one part of the intestinal canal empty and contracted, and another part highly distended. In attending farther to the phenomena of the disease, the following varieties deserve our attention.

I. The disease may be fatal in this state of over distention, without inflammation.

Case 1.—A man, aged 40, (a shoemaker,) had been for some time affected with slight symptoms which were referred to the liver. On the 25th of August 1814, he was seized with an attack resembling cholera, which, after some medicine that was given him, was speedily succeeded by the usual symptoms of Ileus. He had severe pain of the abdomen; urgent vomiting; and costiveness; his pulse was generally about 96, and at last rose to 120. The pain was at times increased by pressure, but not uniformly so. He was twice bled, and the other usual remedies were employed without avail. He died on the 30th. I saw him for the first time on the 30th, when he was moribund. His bowels had been freely moved by medicine on the 29th.

Dissection.—The lower part of the right lobe of the liver was unusually soft. The only other morbid appearance was a considerable part of the intestinal canal in a state of great distention, without inflammation.

This is perhaps an unusual termination of the disease in adults, but I believe infants are frequently cut off in this manner, by the mere interruption of the healthy action of the intestinal canal.

II. The disease may be fatal with recent inflammation, without gangrene, or any of its other consequences.

Case 2.—A woman, aged 20, (23d June 1813,) was affected with violent pain of the upper part of the abdomen and towards the left side, at times increased by pressure, and varying considerably in its degree of severity; frequent and violent vomiting; obstinate costiveness; belly tumid and tense; tongue white; pulse 76, and rather small. On the 16th she got wet during the flow of the catamenia, which ceased, but returned at night; pain about the umbilicus began on the 17th, and increased gradually; vomiting began on the 21st, with hiccup.

Blood-letting; blistering; various purgatives; injections; warm baths, &c. were employed by a physician of eminence.

24th. Incessant screaming from the violence of pain; every medicine vomited instantly; pulse 88, and rather small; frequent hiccup; pain increased on pressure; no stool.

25th. No stool; pain almost gone; every thing vomited; pulse very feeble.

26th. No stool; free from pain; vomiting continued, with hiccup. Died in the night.

Dissection.—The whole of the colon, and about 12 inches of the lower extremity of the ileum, were empty, contracted, of a white colour, and seemed perfectly healthy. The remainder of the small intestine was distended to the greatest degree, and appeared thin and transparent. It contained chiefly watery matter and air. On the surface of the distended part there was in several places considerable inflammation, especially at the lower part, near the contracted portion. These parts were of a vivid red colour, without any tendency to gangrene,

and without exudation. There was a small abscess in the left ovarium; the stomach, liver, &c. were healthy.

III. The disease may be fatal with extensive inflammation and gangrene.

Case 3.—A young man, aged 19, (17th October 1813,) was affected with violent pain round the umbilicus; incessant vomiting; abdomen hard, tense, and a little tumid; bowels obstinately costive; pulse 84; countenance depressed and anxious; had been ill six days, during which a variety of remedies had been employed without relief.

In this severe case, every variety of practice was employed in the most active manner; repeated general and topical bleeding; blistering; various purgatives and injections; tobacco injections; cold applications; cold injections; crude mercury, &c. &c.

18th. Pulse 120; no relief; belly tympanitic; some feculent discharge by injections; urgent vomiting, but not feculent.

19th. Pulse 112; symptoms rather abated; some feculent evacuations.

20th. Pulse 92 to 96; symptoms aggravated; belly much swelled; every thing vomited almost instantly; pain continued violent; some evacuation of watery matter.

21st. Pulse not to be felt at the wrist; in the humeral artery it was 80 and regular; violent pain; no stool; great depression. Died an hour after the visit.

Dissection.—The stomach was healthy. Almost immediately below it, the intestine was distended to the greatest degree, in some places quite thin and transparent; in others highly inflamed and gangrenous, bursting when handled; in other places firm, though perfectly black. This state of disease continued to the middle of the small intestine, where a portion 12 inches in length was empty, contracted, and in its appearance quite healthy. Below this the canal was again diseased as above, distended, inflamed, adhering, and gangrenous, until three inches from the termination of the ileum, when it became suddenly contracted, empty, and white; but this and the other contracted portion were perfectly pervious, easily dilated, and in their coats quite healthy. The colon was healthy and collapsed, except at the lower part, where it contained some consistent feces; the other viscera were sound. The diseased portion of intestine was chiefly distended by air. It contained in some places thin feculent matter, but in no great quantity, and no consistent feces could be found in any part of it.

Case 4.—A boy, aged 12, (26th October 1813,) was affected with violent pain of the belly, chiefly around the umbilicus, vomiting, and some degree of swelling of the belly; pulse 50, soft and regular. Had been ill two days, during which he had had no stool. Various remedies were employed without benefit. 27th. Pulse 120, pain increased, with tension of the belly and tenderness on pressure, had only vomited once. Blood-letting was used in the morning, and again at 3 P. M. after which the pulse fell to 112. The other usual means were em-

ployed without procuring any stool; the pain continued unabated; the pulse rose again to 120, and became extremely weak, with coldness of the body; and he died between seven and eight o'clock in the evening, having continued in violent pain until immediately before death. I did not see this case during the life of the patient. I was present at the examination of the body. *Dissection.*—The stomach was sound, the small intestine was a little distended and slightly inflamed, especially at the lower part, where it had contracted some adhesions. The whole right side of the colon was in a state of gangrene, especially the caput cæcum, which had burst and discharged into the cavity of the peritonæum a large quantity of fluid feces. The diseased parts appeared to have been much distended, and, after being emptied by the rupture, had not contracted, but had fallen flat, presenting a very broad surface like an empty bag. At the upper part of the ascending colon, this diseased part terminated at once in healthy intestine, white, collapsed and empty. This was the state of the remainder of the colon, except the sigmoid flexure, which, with the rectum, contained much consistent feces.

The causes of simple ileus are not well ascertained, and the operation of them is involved in considerable obscurity. It is probable, that they may be referred to two heads: 1. The presence of substances which oppose some resistance to the propelling power of the canal. 2. Causes which diminish the muscular power of a part of the canal itself. 1. The action of the former is illustrated by those cases in which ileus has been distinctly traced to the presence of a large biliary calculus, or other concretion in the intestine. Some of these cases have been fatal, and, on dissection, the usual appearances of ileus have been found above the seat of the concretion. In others, after violent symptoms of several days continuance, the extraneous body has been expelled with immediate and complete relief.* It is probable that masses of indurated feces, and indigested articles of food, may act in this way as a cause of the disease. One severe case which I am acquainted with, seemed to have been induced by a large quantity of nuts, which had collected into a mass in the bowels, and were at length discharged, with relief of all the symptoms. If one portion of the canal were in that state of dilatation which precedes its contraction, and this contraction were impeded by a cause of this kind lodging in the portion immediately below, while the healthy parts above were forcibly propelling new matters downwards, it is, I think, easy to conceive how the former part might be-

* See a Case by Mr Thomas, Med. Chir. Trans. Vol. VI. p. 98.

come over-distended, in the manner which I have conjectured to constitute ileus. 2. The causes of the second class are more obscure, and perhaps still more founded in conjecture. We know the uneasy feelings that are produced by an accumulation of gas moving slowly through the bowels, distending one part after another, in the affection which is called flatulent colic. The distended part in this case can often be felt externally, so as to be ascertained to be the seat of the pain; and it is sometimes so firm and tense, that I have more than once seen it mistaken for a mass of organic disease. In a short time, perhaps in a few hours, it is gone. Now, were a distending cause of this kind, in its progress through the canal, to arrive at a part, the muscular power of which had been impaired, it is, I think, easy to conceive how this part might be distended to a degree from which it could not contract,—the consequence, I imagine, would be an attack of ileus. That this is a real disease of muscular fibres of this kind, we know from the effect of distention of the bladder, and we know also, that when the fibres have been once weakened by such an attack, it is liable to occur again from a smaller degree of distention than that which originally induced it. On the same principle, a person who has suffered an attack of ileus is often for a considerable time liable to violent attacks of pain in the abdomen, upon any irregularity in his diet, or want of attention to his bowels. What are the causes that may weaken the muscular power of a part of the intestine in the manner which I here suppose, we know not with certainty; perhaps cold is one of them. All muscles are liable to the rheumatic inflammation, and we see that it not only diminishes their power, but, in many cases, produces perfect paralysis; and even without the rheumatic state, cold is capable of directly paralysing muscular fibre. Perhaps another of these causes is over-excitement. We see ileus supervene upon cholera, and upon diarrhœa which has been attended with much irritation, especially in old people. But, without speculating farther on this point, I think we have much reason to suppose, that many cases of ileus are connected with a certain predisposition in the state of the parts. In what a different manner these may be affected by the same cause, is strikingly illustrated by the two following cases. In the one, a mechanical cause of some continuance produced violent symptoms, which ceased whenever the cause was removed. In the other, a similar cause of short continuance was followed by ileus in its most violent form.

Case 5.—A gentleman, aged about fifty, was affected with pain of the abdomen, urgent vomiting, and obstinate costiveness; the ab-

domen was tumid and tense; the pulse natural. He had been in this state for three days, during which a variety of remedies had been employed without benefit. On examining the groin, I discovered a hernia the size of a pigeon's egg, which was soft, and not painful, and was reduced at the first touch. A laxative injection being then given, operated freely, and all his symptoms were relieved immediately.

Case 6.—A woman, aged about thirty, on 10th October 1814, was suddenly seized with umbilical hernia, which protruded to the size of an egg, and was accompanied by severe pain across the upper part of the abdomen. I saw her about two hours after the appearance of the hernia, and it was very easily reduced, but the pain of the abdomen continued, and various purgatives and purgative injections were given without benefit. Without detailing the particulars of the case, it is sufficient for my present purpose to state, that it turned out to be ileus in its most violent form, which resisted the most active treatment for six days, and then terminated favourably, by perseverance in the usual remedies.

In these two cases, the cause was the same, and a corresponding interruption took place in the muscular action of the intestine; but in the one, this was recovered from as soon as the cause was removed; while in the other, it is probable, that a part of the canal had been injured in its muscular action in the manner which I have already alluded to, as calculated to give rise to an attack of ileus.

There are various circumstances in the history of ileus which favour the opinion, that a portion of the intestine is for a time deprived of its muscular action, and reduced to the state of an inanimate canal. When the disease is beginning to give way, the first discharges are generally watery; and we frequently see fluid matter discharged of such an appearance as gives every reason to believe that it had come from the higher parts of the canal, and in such quantity as leads us to suppose that the bowels must be emptied. Yet after this, the patient who has been taking very little nourishment, and chiefly liquid, begins to discharge, and often continues for days to discharge, quantities of indurated feces that are almost incredible, and which must have been lodging from the commencement of the disease. This can only be accounted for by supposing, that a portion of the canal had been distended, and incapable of action; that there the hardened feces had lodged, while fluid matters were driven through by the action of the healthy parts above, but that the hardened matter was not discharged till this part itself had recovered its muscular power.

Another circumstance, which I think can only be explained on

the same principle, is, that there is a modification of the disease, in which there is no obstruction, but, by the usual purgatives, liquid stools can be procured through nearly the whole course of the disease. Recovery in these cases is sometimes accompanied by immense discharges of hardened feces, which must have been lodging from the commencement of the attack.

Case 7.—A lady, aged 35, (3d December 1813,) was affected with vomiting, and pain over the whole abdomen, which was rather tense and painful upon pressure. Pulse rather frequent. She was bled and blistered, and took laxative medicine, which operated freely, bringing off thin feces of a natural appearance. After another bleeding, on the following day, she became much exhausted, her features shrunk, her pulse feeble, and of extreme frequency; laxative medicine, which had been given again, brought off fluid feces. She now took wine in large quantities for three days, and, under this treatment, she gradually recovered from the state of exhaustion, and the pulse came down in frequency. An injection given on the 7th operated freely; and, on the 9th, she took castor oil, with which she began to discharge hardened feces in the most extraordinary masses, and in immense quantity. This discharge continued spontaneously for four or five days, and the whole quantity discharged was almost incredible. On the 15th she was well.

This modification of the disease may be fatal without obstruction.

Case 8.—A gentleman, aged about 40, (10th November 1812,) was seized with vomiting and pain of the left side of the abdomen, his pulse varying from 40 to 60; took purgative medicine, which operated fully; and on the 11th, the vomiting had subsided, but the pain continued severe, and was more general over the abdomen; pulse 70.—12th. A tympanitic swelling appeared on the left side of the abdomen, which, on the 13th, had extended also to the right side; violent pain continued; pulse natural. On the 13th, he took purgative medicine, which operated fully four or five times. On the 14th, he was free from pain, but the swelling had extended over the whole abdomen; pulse still natural. On the 15th, the pain returned with great violence, with vomiting, and frequent pulse. It continued violent through the day and night, and he died early on the morning of the 16th. The body was not examined; but, from a case considerably similar, which is related by Morgagni, I think it probable that the distended parts had run rapidly to gangrene.

Sect. II.—*Ileus, with Organic Disease of such a Nature that it acts by interrupting the Muscular Action of the Intestine, without Mechanical Obstruction.*

Case 9.—A gentleman, aged 24, had been, for several years, liable to violent attacks of pain in the abdomen, chiefly affecting the right side. The attacks usually continued a few hours, and were very un-

certain in their recurrence; sometimes they returned every evening for weeks together, and sometimes he was, for weeks or months, perfectly free from them. One of his longest intervals was ascribed to taking daily a small dose of Epsom salt. On the 11th of June 1818, he suffered one of these attacks, which came on in its usual manner, and affected him with violent pain across the lower part of the abdomen, which was drawn into balls; no vomiting; pulse 60; pain alleviated by lying on his belly across the edge of his bed. Was seen by an eminent practitioner, who gave him an opiate and a purgative with relief; bowels freely moved; 12th, was better, but felt weak; 13th, walked out, but at night the pain returned with violence; pulse 60; an opiate was given without relief. At four o'clock in the morning of 14th, pain continued unabated; pulse 108; was bled to ℥xii. and injections given, by which his bowels were moved freely, four times; at 9 was found pale, cold, and exhausted, and pulse scarcely to be felt; but there was still severe pain in the abdomen, which was a little tympanitic, but not tender to the touch. He died at two P. M. I saw him two hours before death.—*Dissection.*—The small intestine was greatly distended, and, on many places, especially on the ileum, there were inflamed portions, with effusion of coagulable lymph, and others of a dark colour, approaching to gangrene. The greatest inflammation was at the very extremity of the ileum. The right extremity of the colon was singularly turned upwards upon itself, towards the outside, so that the surface of the caput cæcum was in contact with the surface of the ascending colon, and a firm adhesion had taken place between them, about two inches in extent. The adhesion was very firm, and was evidently of long standing; the parts immediately concerned in it appeared to be a very little thickened; the colon and the caput cæcum were in other respects quite healthy, and without any vestige of inflammation; other viscera healthy.

Case 10.—A man, aged 63, had been affected with double inguinal hernia for 40 years, both of which were easily reducible, and he had been for many years liable to violent paroxysms of pain in the abdomen, during which the herniæ were generally "forced out." He suffered one of these attacks more severe, and longer continued than usual, in November 1812. It began with shivering and nausea, with pain in the abdomen, and continued with various remissions and aggravations. He had been able to walk out about a week before his death, but was never free from pain in his bowels. During this attack, the ruptures had protruded frequently, but he always reduced them with ease till the morning of the 29th, when he failed. They were, however, readily reduced by a gentleman who then saw him, but at night, when I saw him, they had again protruded. They were easily reduced, but protruded again almost immediately, though he was lying on his back. He had some vomiting, but not urgent; violent pain over the abdomen, which was tender and extremely hard; pulse 120, and irregular; features collapsed; bowels had been freely moved by injections. Died in three hours after the visit.

Dissection.—Both ruptures were completely reduced, and without any adhesion to the sacs. The sacs were considerably thickened; the mouths of them were large and free; the inner surface of the sac of the left side was inflamed and sloughy. The small intestine was, down to the middle of the ileum, greatly distended, and, in many places, inflamed and gangrenous. The disease stopped at the part of the ileum which had formed the hernia of the right side; the surfaces of this portion, which had been in contact in the hernia, had formed a firm adhesion to each other, about three inches in extent. At this place, the coats of the intestine were somewhat thickened, but so as to produce very little diminution of its area, and it was otherwise quite healthy.

Case 11.—A boy, aged eight, was affected with frequent vomiting and obstinate costiveness; his belly was swelled and tympanitic, but without much pain or tenderness; he was pale and emaciated; his pulse frequent and feeble; he had been ill for ten or twelve days. The complaint had begun with severe pain and diarrhœa; this was succeeded by costiveness, which, for seven or eight days, had resisted every remedy; for the last two days every medicine had been vomited; his exhausted state left little room for active practice, which indeed had been fully tried before; in two days more he died. *Dissection.*—The small intestine was distended to the greatest degree, down to a point in the ileum, where the following cause of the disease was discovered. Between two turns of intestine, there was a narrow band of adhesion, rather more than an inch in length. It was evidently of long standing, and, while the parts had remained contiguous, had produced no bad effect, but by some relative change of situation of the parts, another turn of intestine had insinuated itself between the two adhering portions. This portion, however, was healthy. The effect appeared to be, that the band of adhesion being thus put upon the stretch, the peristaltic motion had been interrupted. At the lower attachment of the adhesion, the intestine was drawn aside into "puckers," and precisely at this point the distention ceased, and the canal became white, empty, and collapsed. At this point, however, there was no obstruction, and the coats of the intestine were perfectly healthy, except a circumscribed redness on the inner surface, at the point corresponding with the attachment of the band of adhesion. On the distended intestine there was slight appearance of superficial inflammation, but it was of small extent, and appeared to be quite recent.

Case 12.—A man, aged 60, (23d April 1815,) was affected with vomiting; pain of the abdomen, which was swelled and tympanitic; obstinate costiveness; pulse 108, and soft; countenance pale and exhausted; pain not increased by pressure; had been ill a week, during which powerful remedies had been employed without benefit; had formerly had two attacks of the same kind, one of which continued a week. This man lived in great distress till the 28th, without any remarkable change in his symptoms. The swelling of the

abdomen increased gradually, until it resembled that of a woman at the most advanced period of pregnancy, yet to the last he could bear pressure upon every part of it. His pulse varied from 108 to 116: his death was sudden; he had been out of bed, and dressed the day before, and in the morning of the day on which he died he did not appear worse than usual. Every powerful remedy was employed, without the slightest benefit. *Dissection.*—On opening the abdomen, a viscus came into view, which appeared to be the stomach enlarged to three or four times its natural size. On a more accurate examination, this turned out to be the sigmoid flexure of the colon, in such a state of distention, that it rose up into the region of the stomach, and filled half the abdomen. The stomach was contracted and healthy. The small intestine was healthy at the upper part, lower down it became distended, and of a dark colour; at the lower part it was very much distended, with some spots of gangrene. The colon was greatly distended; in some places it was not less than five or six inches in diameter, and terminated in the distended sigmoid flexure already mentioned; the rectum was healthy and collapsed; the sigmoid flexure was of a dark livid colour, and contained air and thin feces. What appeared to be the cause of this affection remains to be mentioned. The enlarged sigmoid flexure was found to have taken a remarkable turn upon itself, so that what was naturally the right side of it lay to the left, in contact with the descending colon, and the left, or ascending part of it, lay on the right. The consequence of this was, that the rectum, as it descended from the former, passed down behind the lower, or first turn of the sigmoid flexure, where it first takes the turn from the descending colon; also the rectum itself, at this part, received a twist as if half round. Exactly at the point where this twist was, the distention and dark colour of the intestine terminated abruptly, and it became white and collapsed. At this part, however, there was no mechanical obstruction, for the parts were pervious, and, except the twist, perfectly healthy; and farther, it happened in this singular case, that I had an opportunity of ascertaining the state of them during life. On the 25th, three days before his death, having exhausted all the ordinary means, I was induced to examine the rectum with a large ivory-headed probang, and I found at a certain depth, (which was afterwards found to correspond with the point where the rectum was twisted,) a slight obstruction to the passage of the probang; however, it passed up with little difficulty, and was withdrawn without any. A piece of the intestine of an animal tied at the end was carried up beyond this point, and then strongly distended by injecting water into it. In this distended state it was retained for some time, and then slowly withdrawn; but no discharge followed it, though, as I have already mentioned, the distended part contained only air and fluid feces.

To this part of the subject are to be referred the well known cases of very small herniæ, which include only a small portion of one side of the intestine. I have seen several of these, and I

have a preparation from a fatal case, in which the strangulated portion is not above one-third of an inch in depth, and in diameter like the point of the little finger, the area of the intestine, except this little portion, being quite free. The symptoms and the morbid appearances were precisely similar to those in the cases already mentioned; the intestine above the hernia being greatly dilated and highly inflamed, with some portions gangrenous, and, below the hernia, empty, collapsed, and healthy.

The cases which I have described under this article appear to me to be of considerable importance, and to throw some light upon the pathology of ileus. The disease in all of them was distinctly referable to a cause which was obvious on dissection, and yet the cause was such as produced no mechanical obstruction. This was most remarkable in Cases 9 and 10, in which the cause was evidently of long standing, and in Case 12, in which there was an opportunity of fully dilating the contracted portion, three days before the death of the patient. In these cases, then, the seat of the disease must have been the distended portion. We have seen it existing without inflammation, and the only idea we can form in regard to the nature of the primary disease, I think, is a muscular organ distended beyond its power of contraction. The paroxysms which had often occurred in Cases 9 and 10 were also remarkable. It is probable that, while the intestinal contents were in small quantity, and the action extremely moderate, the diseased portion was able to act in concert in the natural and healthy manner, but that, when a certain greater degree of dilatation took place in the parts above, a corresponding dilatation could not be communicated downwards, and an interruption occurred which occasioned the paroxysms of pain. The over distention, in these cases, was after a certain time removed, until at last, from some cause which eludes observation, it took place in a greater degree, which was not recovered from, but, passing into inflammation, was fatal. In Case 11 it is worthy of observation, that the mere distention was fatal; the appearance of inflammation being so slight and recent, that it could not be considered as the cause of death.

Sect. III.—*Ileus, with Mechanical Obstruction.*

On this part of the subject, I shall do little more than relate a few remarkable examples; and they are referable to three heads, contraction of the intestinal canal,—intus-susceptio,—and internal hernia.

Case 13.—A man, aged 70, a tailor, had complained for several

weeks of a deep-seated pain, referable to a particular spot at the lower part of the abdomen; but it was not so severe as to prevent him from following his usual occupations. On 27th July 1815 he was seized with violent pain of the belly, vomiting, and costiveness; on 28th, belly became swelled, tender, and tympanitic; pulse natural; 30th, some feculent discharge was procured; pulse about 100. Died rather suddenly on 31st.

Dissection.—The whole of the small intestines, and the colon, were in a state of uniform distention, and of a dark colour. The distention stopped at the second turn of the sigmoid flexure, before it turns down to terminate in the rectum. Here the intestine was for about an inch and a half very much thickened in its coats, and its area was so diminished as scarcely to admit the point of the little finger. The inner surface of this portion was covered with red fungous excrescences, like granulations; much feculent matter was collected above this place. There was no adhesion in the other parts of the intestine, nor any appearance of active inflammation; but a dark leaden colour was nearly uniform over the whole of it.

Case 14.—A woman, aged 60, had complained for some time of frequent uneasiness in her bowels, with flatulent distention.—27th August 1817. Uneasiness increased; no stool for four days; but no violent symptoms. From this time, she resisted every remedy, but still without any violent symptoms; the belly became gradually more and more enlarged, but there was no fixed pain, only occasional griping; no fever; no tenderness, and little vomiting. She died on 4th September, having lain for the last three days in a state of extreme lowness, with coldness of the whole body. *Dissection.*—The whole tract of the intestinal canal was prodigiously distended, and there was, in several places, recent inflammation, with exudation of coagulable lymph. The disease extended to the rectum, about four inches from the anus, where the intestine was so contracted as scarcely to admit the point of a small finger. Behind this spot, there was a mass of diseased glands, and the contraction was occasioned by a firm flat substance, which was connected with this mass, and crossed the intestine in front. This being cut through, the intestine was set at liberty, and its coats were sound.

Case 15.—A woman, aged 22, (9th November 1818,) while sitting dressing her child, was suddenly seized with vomiting, and pain at the stomach; the pain soon after moved downwards, and fixed, with great severity, in the region of the head of the colon; the whole abdomen became painful and tender.—10th, Urgent vomiting, violent pain over the whole abdomen, with frequent paroxysms of aggravation which produced screaming; abdomen tender; pulse 120, very small and feeble; countenance extremely faint and exhausted. Died on the 13th, without any particular change in the symptoms.—*Dissection.*—Small intestine greatly distended, with a slight blush of redness in some places. About three inches from the lower extre-

mity of the ileum, there began an inversion of the intestine, to such an extent, that more than 18 inches of the ileum had passed into the cavity of the caput coli. The inverted parts were much diseased, inflamed, and gangrenous, and some portions were reduced to the state of a soft pulp. At the commencement of the inversion a portion was much thickened; the colon was healthy; there was some effusion in the abdomen.

Case 16.—A boy, aged two years and five months, (7th May 1812,) was seized with vomiting, pain of the lower part of the belly, and tenesmus, with which he passed small quantities of bloody mucus, and some pure blood. He was hot and restless, and his countenance was anxious and depressed; pulse very frequent; abdomen, to the touch, natural. On the 8th, while straining at stool, a tumour, of a dark bloody colour, protruded from the anus to the bulk of an egg. It was easily reduced; but, on examination by the finger *in ano*, was distinctly ascertained to be inverted intestine, and a probang being carried up, passed to a great depth by its side, without reaching the commencement of it. Various unsuccessful attempts were made to restore it to its natural situation. The child died on the morning of the 9th. *Dissection.*—A most remarkable inversion of the intestine was discovered, which began at the middle of the arch of the colon, and the parts concerned in it, including the remainder of the colon and a corresponding portion of the ileum, when freed from the inversion, measured 38 inches. The part that had protruded at the anus was the inverted caput coli. The inverted portion of colon was of a dark livid colour, very soft, and, in some places, thickened. The portion of ileum included within this was healthy; a portion of omentum was also included, besides a considerable extent of mesentery. The other intestines were slightly inflamed, and there was some serous effusion in the abdomen.

I have seen another case, exactly resembling this in its symptoms, and differing from it only in the extent of the inversion, which began at the lower part of the colon. The patient was a boy aged about four years, and he survived five or six days.

Case 17.—A girl, aged 17, (5th July 1818,) was seized with violent pain in the belly; vomiting; obstinate costiveness; pain increased by pressure; pulse frequent. Various remedies were tried without benefit; pain continued; belly enlarged. I saw her on the 9th; the belly was then enormously enlarged; very tense, and tender; no evacuation; pulse 140, and weak; features collapsed; died at night.—*Dissection.*—The small intestine was much distended and inflamed; and, in several places, had burst and had discharged much thin feculent matter into the cavity of the abdomen. At the root of the mesentery, on the right side, and on a line with the head of the colon, there was a mass of diseased glands, the size of a large egg. To this mass, the appendix vermiformis had contracted a very firm adhesion by its apex, and as it stretched across from the caput cæcum to

the mass of glands, it left beneath it a space which admitted three fingers. In this space a turn of intestine, about six inches in length, was strangulated and gangrenous.

Case 18.—A man, aged 28, (15th August 1815,) was suddenly seized with pain of the belly and frequent vomiting. 16th. Symptoms continued, with hiccup; pulse natural; no stool. 17th. Symptoms abated, but no stool; pulse natural. 18th. Severe vomiting and hiccup; features collapsed; a good deal of pain, but not increased by pressure; pulse 90; died in the night.—*Dissection.*—There was a hard mass of considerable size formed by disease of the mesentery. To this mass several turns of intestine had contracted adhesions of long standing, and, at these points, the coats of the intestine were much contracted by bands of adhesion, and the cavity diminished; at one point, it would only transmit a directory. At one place, a portion of intestine adhered to the diseased mass at two points, leaving betwixt them a space which admitted a finger; in this space, a small portion of a contiguous turn of intestine was strangulated. In the upper part of the small intestine, before these adhesions commenced, there was distention and gangrene; below, it was healthy, except several narrow bands of adhesion in several places betwixt contiguous turns. About two years before his death, this man had been for some months in very bad health, being affected with a deep-seated pain in the abdomen, want of appetite, great weakness, and emaciation. He went to the country, and got well. After that time he enjoyed tolerable health, except two attacks of pain of the belly, and vomiting, which were of short continuance; the second was about a fortnight before the fatal attack, and was relieved by a dose of castor oil.

The following case differs from these examples of ileus. I add it here as a remarkable example of inverted peristaltic motion.

Case 19.—A man, aged 53, a marble-cutter, (May 1814,) was affected with vomiting and uneasiness in the bowels, which attacked him in the following manner: The attack commenced with a sense of commotion, or, as he termed it, "a working," which began at the very lower part of the belly, and rather to the left side. It moved gradually upward till it reached the stomach, and then he vomited every thing that he had taken since the last attack. He was attacked in this manner at uncertain intervals, several times every day, and the complaint had continued about a fortnight. He had been for 15 years affected with a small hernia of the left groin, which often came down, but was easily reduced. He had used a truss, for the first time, a few weeks before he applied to me. From that time his hernia had never appeared, but very soon after he applied the truss, the above mentioned complaint began. There was no fixed pain in the belly; his pulse was natural; his bowels costive, but not obstructed.

A variety of remedies was employed without benefit. For a month after I saw him first, he continued to attend to his work. He was then confined to his house, and soon after to bed, with increasing debility and emaciation, without any change in the complaint; his hernia never appeared; his pulse was generally natural; his bowels were easily kept open; his belly, to the touch, quite natural, rather collapsed, except at times, when a circumscribed hardness was to be felt in it, but this was not always felt in the same place, and often not felt at all. He was liable to violent paroxysms of pain in the abdomen, which affected sometimes one part of it, sometimes another, and he died of gradual exhaustion, about ten weeks from the commencement of the vomiting. *Dissection.*—The hernia was found to have been femoral; a portion of the sigmoid flexure of the colon adhered to the mouth of the sac, and a fine ligamentous band, connected at its extremities to the mouth of the sac, surrounded the intestine at this spot, but without producing a great degree of constriction,—the area, to the extent that the band admitted of its dilatation, being free, and the coats of the intestine healthy. There was intus-susceptio of considerable extent in two places of the small intestine, and the lower end of the ileum was inflamed. The colon was collapsed; the pylorus was hard, and a little thickened; the inner surface of the stomach, at the pyloric extremity, was considerably eroded.

The following case exhibits another modification of the symptoms.

Case 20.—A woman, aged 63, enjoyed tolerable health, till within three months of her death. She then had vomiting and costiveness for a week, and was relieved by purgatives. She then complained of nausea without vomiting; no pain; the belly was at first tumid, but afterwards subsided. After a month she was confined to bed, but complained of nothing except constant nausea, and increasing debility and emaciation. Bowels very costive; no organic disease to be detected. She had repeated attacks of vomiting, which sometimes continued for several days. In the intervals she lay without complaint, except nausea and want of appetite, till she died of gradual exhaustion. Her bowels had been kept open by injections, purgative medicine being vomited. *Dissection.*—There was a great thickening and induration of the coats of the ileum at its termination in the colon, which so narrowed the opening, that it only admitted the point of the little finger. The ileum was distended and dark-coloured, the other viscera healthy.

On a review of the whole phenomena of ileus, as they are presented to us in these cases, there are various principles, pathological and practical, which seem to result from them. Some of these may be considered as legitimate conclusions; others I submit for farther investigation.

1. It is probable that the morbid condition which constitutes

ileus, is the distention of a portion of the intestinal canal beyond its power of contraction.

2. It is probable, that, when a considerable extent of the canal has fallen into this condition, it may in that state be fatal without farther disease.

3. The usual progress of the unfavourable cases is to inflammation and its consequences; and we have seen the disease fatal, while the inflammation was in various stages of its progress, from a slight blush of recent redness to extensive mortification. Farther, we have seen remarkable varieties in regard to the period of the disease when the inflammation appears. It seemed to be quite recent in Case 2d, which was fatal on the 9th day, and in Case 11th, which was fatal about the 13th. On the other hand, in Case 4th it had passed on to extensive gangrene on the third day.

4. It is probable that ileus is not necessarily connected with obstruction of a part of the canal, for we have seen it occur without obstruction, and in connection with causes which did not seem calculated to produce obstruction; and in one case we have seen the obstructed part dilated by mechanical means without relieving it.

5. Ileus does not appear to be necessarily connected with feculent accumulation, or with any condition of the contents of the canal, for we have seen it fatal while these contents were of a natural appearance, almost entirely fluid, and in very small quantity.

6. Pain of the abdomen, increased upon pressure, does not appear to be a certain mark of inflammation. It occurred in Case 1, where there was no inflammation, and in several other cases at an early period, before probably the inflammation had commenced. From various observations I am satisfied, that intestine which has been rapidly distended, is painful on pressure; it is, however, a kind of pain which by attention can in general be easily distinguished from the acute tenderness of enteritis.

7. Cessation of the pain, and great sinking of the vital powers, are not certain indications of gangrene; for in Case 2d these symptoms were connected with recent inflammation; and in Cases 7th and 21st, they were recovered from. To this important subject I shall have occasion to refer more particularly when I come to the subject of enteritis. I shall then mention several cases in which recovery took place where the symptoms usually considered as indicating gangrene had occurred. On the other hand, in Cases 3d and 4th, in which there was extensive gangrene, the pain continued violent to the last.

8. The pulse appears to be rather an uncertain index of the

condition of the parts in ileus. In Case 2d, in which there was considerable inflammation, it was less affected than in Case 1st, in which there was none. In Case 14th there was neither frequency of pulse nor tenderness of the belly, though there was inflammation, with exudation of very considerable extent. Other interesting circumstances in regard to the pulse may be remarked in the cases. One of the most important is in Cases 4th and 9th, which were fatal, with extensive inflammation and gangrene, within eight or ten hours after the time when the pulse was first observed above the natural standard.

9. In cases of Ileus, we must be cautious of forming a favourable prognosis from the appearance of feculent evacuations. These, we have seen reason to believe, may occur while the disease is going on to a fatal termination, and much feculent matter may lodge in the lower part of the intestine which is healthy, and may be brought off while the disease above remains unchanged.

10. Organic disease of considerable extent may exist in the bowels without giving rise to any urgent symptoms, until at length, from some cause which eludes observation, it suddenly produces fatal ileus. Cases 13th and 14th.

11. On the other hand, such organic disease may be fatal without ileus. Cases 19th and 20th.

Outline of the Treatment of Ileus.

If the principles which I have proposed in this paper shall be considered as worthy of any credit, it will follow, that ileus is not an accumulation to be forcibly removed, nor an obstruction to be forcibly overcome, but a muscular organ to be restored to its healthy action. In the treatment there would be three distinct objects of attention,—the part which is distended beyond its power of contraction,—the healthy part above,—and the healthy part below, which is contracted and empty. Those principles, however, I only propose at present for further investigation, and do not presume to think them so established as to be applied to the treatment of ileus. But there are some points in regard to the treatment which present a most interesting field of investigation, and on which I would propose a few observations. One of the most important of these relates to the use of purgatives in ileus, and the question, Whether, in every case, the use of active purgatives be advisable? The action of purgatives must be chiefly and primarily upon the

healthy part of the canal above the seat of the disease; and the important question, in regard to this portion, is, Whether, in every case, it requires to be excited; or whether there are not modifications of the disease in which its action is already as great as can be desirable, and even some, in which it might be moderated with advantage? The violent tormina occurring in paroxysms, which we observe in many cases of ileus, certainly give reason to believe, that there is not any deficiency of action in the higher intestines, but rather a violent action, resembling that which is produced by a purgative,—a strong though ineffectual effort to overcome some interruption to the healthy action of the canal. Now, if a part of the canal be really in a state of inaction from over-distention, and if the action of the healthy part above fails in relieving it in the manner which I have already supposed, may we not conceive a case in which it is actually increasing it,—in which, by propelling new matter into the distended part, it is presenting an obstacle to this part recovering its healthy action. In such a case, might not benefit be obtained from allaying the action of the upper part, instead of increasing it? I think there are circumstances in the history of ileus which give some probability to this conjecture. Several of the remedies which are beneficial, are such as are calculated to allay muscular action; among these may be reckoned blood-letting, cold applications, and tobacco injection; and I have seen a severe case of ileus yield in a few hours after the use of a full dose of opium, which had for several days resisted the most active remedies. I by no means intend to say, that this principle is applicable to every case, but, from the whole phenomena of ileus, I do suspect that there are most important differences in the circumstances of the disease in different cases; particularly that there are some cases in which the upper part of the canal requires to be excited; others in which its action is already sufficient for every purpose that it can be supposed to answer; and some in which it may even require to be moderated. I think there is also some reason to suppose, that, in the cases which require the use of purgatives, there are important differences in the degree of excitement that is adapted to each,—that in some, the most active medicines are requisite, while in others, the mildest in very moderate doses, produce that beneficial action, which, by a stronger excitement, would be defeated. These remarks are not entirely hypothetical. The most accurate observers have often been heard to remark, that there are facts in the history of ileus which seem to be totally at variance with our ordinary ideas in regard to the action of purgatives,—that very mild medicines seem, in

many cases, to answer better than the more active,—and that the beneficial result sometimes follows the very mildest in very small doses, after the most powerful in immense quantities have been given in vain. I am aware of a source of fallacy which is inseparable from such observations, but I conceive they are by no means to be disregarded; and when we add to them the fact, that a full dose of opium is sometimes followed by the result which we have sought for in vain from the most powerful purgatives, I submit, whether the whole phenomena of the disease do not give considerable probability to the principles which I have proposed. In regard to the use of purgatives, I suspect, that the best practice in general is to give mild medicines in moderate doses, repeated at very short intervals, while, at the same time, we keep in view, that the use of purgatives is but a part of the treatment, and that the main object is to remove, if possible, that condition of the canal, as a muscular organ, by which purgatives are prevented from producing their usual effects. Every one, indeed, must have experienced, that, in regard to the use of purgatives, there is a point in the treatment of ileus when he is often brought completely to a stand, when he is convinced that it is in vain to urge them farther, and is led to look around for remedies calculated to act upon some other principle. Important remedies of this kind are bloodletting, blistering, and the effectual application of cold, either externally, or by glyster; but, as far as my observation extends, the remedy of most general utility is the tobacco injection. It should be begun with caution; perhaps for an adult in the quantity of 15 or 20 grains infused in four or six ounces of hot water. After the interval of an hour or two, it may be repeated in a quantity a little larger, until such effects are produced by it, viz. slight giddiness and muscular relaxation, as shew that it is exerting its proper effect upon the system. It may then be repeated at proper intervals a great many times, if the case do not yield. With these precautions I have given it in states of great nausea and exhaustion, with the effect of diminishing instead of increasing them, and, in one case, to a child three years of age, with the happiest result. In one of the most severe and obstinate cases I have had occasion to treat, it was repeated nearly twenty times with various partial effects, and at length with complete success. The obvious effect of this remedy upon the system, is to produce relaxation of all muscular parts, and the mode of its operation in ileus is involved in considerable obscurity. I have supposed, that, in this disease, the upper part of the canal is healthy, sometimes in strong action,—that a part below this is inactive from distention,—and that the lower part

is healthy and contracted, being kept in that contracted state by its tonic power, and the suspension of the action by which, in the healthy state of the parts, it would have been distended. A certain force is, indeed, acting upon it by the propulsion of matters from the upper part, but this acts with little effect after being communicated through the intermediate portion, which is in the state of an inanimate canal. It is, therefore, unable to overcome the tonic contraction of the lower part, which thus opposes an obstacle to the parts recovering their healthy relations. The same observation applies, if we suppose, that the distended part itself retains some degree of action, though feeble and imperfect. Now, in this state of the parts, could the tonic power of the lower part be for a time considerably diminished, it might perhaps be brought, as it were, more into unison with the other parts,—might be dilated in the natural manner by the weakened force which is acting upon it,—and the parts might thus be enabled to recover their healthy relations. Is this the action of the tobacco injection?—It is mere conjecture, and I urge it no farther. I add the following case, illustrating the effect of this remedy in a state which seemed to be nearly hopeless, and exemplifying an important fact to which I have already alluded,—that symptoms resembling those of gangrene may be recovered from

Case 21.—A woman, aged 20, (17th November 1813,) was affected with violent pain in the right side of the abdomen, and obstinate costiveness; pulse natural; had been ill three days; used purgative medicine and injections with some relief.

18th.—Pulse 96; urgent vomiting; pain of abdomen violent; was bled and blistered, and purging injections repeated.

19th.—Pulse 120; no stool; no relief; pain violent over the whole abdomen; urgent vomiting. Was bled again; various medicines given without effect; every thing was vomited. Towards the afternoon, the pain nearly ceased, with collapse of the features, and coldness of the surface; pulse 140, and very weak; vomiting continued; appeared to be moribund. Wine was now given, about a glass every hour. After a few hours, her appearance being improved, the tobacco injection was given at first in small quantity, and it was repeated several times. It did not increase the sinking, but seemed rather to abate both it and the vomiting; wine continued.

20th.—Pulse improved; some scanty evacuations; tobacco injection given several times with partial effect; vomiting abated; some Epsom salt was retained, and operated; free from pain; pulse 96.

21st and 22d.—Continued to improve; pulse 80; bowels kept open by small doses of Epsom salt. From this time continued well.

I have already alluded to the effects of blood-letting, and the application of cold. In the state of collapse produced by a full

bleeding, I have repeatedly seen the disease give way so suddenly, that there was no time to raise the patient out of bed. If there are symptoms indicating inflammation, this remedy of course must be urged in the most decided manner. In regard to the remarkable effects of cold, I refer to a valuable paper by Mr Smith of Kingussie, in the 9th Volume of this Journal, page 287. Of the other remedies that have been proposed, I have had little experience. Crude mercury in doses of lb. i. or more I have tried in several cases. In some of them, it appeared to abate the vomiting. I have not observed any other effect from it, and I am not convinced that the principle on which it is given is correct. In the Memoirs of the Medical Society of London, Vol. II. some remarkable cases are described, in which the forcible injection of fluid to the extent of six or eight pounds, was used with advantage.

Whatever practice is employed ought to be zealously persevered in, notwithstanding the most unfavourable appearances; for the disease has been known to resist for a long time the most active remedies, and yet terminate favourably, as late as the 17th day.

II.

On the Substitutes that may be used for the Cinchona. By James Thomson, M. D. &c.

I remember reading in a foreign medical journal, some years ago, a suggestion that coffee, from its peculiar properties, might be found useful in the cure of intermittent diseases; and, if my memory serves me correctly, many cases were mentioned as having been cured by means of it. Although the particulars of the reference have escaped me, yet I have since had opportunities of confirming the truth of the observation, and have taken the liberty of presenting them to you along with other remarks on intermittent fevers. "Specifics," says Pinel, "have always retarded the progress of medicine, and particularly of that kind so beautifully illustrated by Hippocrates, the medicine of observation or expectation; for the disease is no sooner named than the antidote suggests itself; the physician conceives no farther investigation is necessary; and the disease is put a stop to without one additional observation being recorded." Any one

must be aware how applicable this has been in regard to intermittent diseases; for the word fever is no sooner mentioned than bark is thought of, and that administered with no sparing hand, without considering that the fever may arise from deranged organic structure, suppressed catamenia, and the like; and then our efforts will only tend to strengthen the disease. When we add to this the shameful adulteration of the bark, which the avaricious disposition of mercantile men in general leads them to adopt, we need not be astonished at the complaints of want of success. We in truth become the executioner of our patient, whose strength of constitution has enabled him to obtain an intermission of the fever.

Our medical *creed* orders us to lose not a moment in *throwing in* the bark. But what kind of bark? Why a composition of the grossest materials, of which not one half is made of what it professes to be. This I have repeatedly ascertained from examining parcels sent to this island, and I have no doubt that the same imposition will be found at home. Who is there that will deny that, in administering such stuff to the weak stomach of an exhausted patient, we exhibit a mortal poison? No wonder we are told that the bark was rejected; yet such practices have prevailed, and do now prevail, and at this moment constitute the mode of relief adopted by the majority of the medical profession.

From a natural aversion to Peruvian bark, I was led to seek assistance from some other remedies. The first that suggested itself was coffee. I first ascertained its effects on the body when in health.* An ounce of dried ground unroasted coffee was infused in a pound of water, and boiled down to four ounces. One ounce was taken in a cold state every quarter of an hour. At the end of the hour the pulse had increased six beats, and continued so for some time. Experiments were afterwards repeated on the decoction, infusion, powder, and extract, with various results; yet the pulse never failed to be excited in some degree or other. The sensation that was felt after these trials was a sense of fulness of rather a pleasant nature, which continued

* I had, by repeated experiments, made some years ago, ascertained the natural state of my pulse, from observations made three times daily for upwards of a month. The pulse was always from four to six beats fewer in the evening. This will be found to be general. After a residence of three years in this island I find my pulse in health beats two pulsations more in the morning; this may be accidental. These experiments were made at Edinburgh in 1813-14, in conjunction with my learned friend Dr Knox, and inserted in your Journal, and published in an improved form as an inaugural dissertation, 1814, by that gentleman.

occasionally for an hour or so. Satisfied with these results, I waited an opportunity of putting them in execution on some diseased subject: I little imagined I should be the subject myself.

Case I.—I was seized, in consequence of exposure to a very unhealthy atmosphere, with a regular tertian fever. I took some purgative, and allowed the disease to go on for fourteen days without any farther medicine, for the very smell of bark was like to excite vomiting. During the intervals of the fever, I took the decoction of coffee prepared as above, an ounce three times daily. By the time the next paroxysm was to be expected, I had taken six ounces of powdered coffee made into decoction. The fit came on as usual, but was quite trifling. I continued the medicine for a week longer, and the fever never returned. I continued in good health for six months, and towards the fall of the year, from my professional duties leading me to be exposed at an unseasonable time, I again got back my old companion. I immediately took the coffee decoction, and had only three attacks of the disease.

Case II.—A young gentleman, lately come to the island, was attacked with intermittent fever, which he imprudently allowed to go on for six weeks. He applied to me. I gave the coffee decoction prepared by myself, but so disguised, that he could not detect it. I told him it was a particular preparation of bark. The stated quantities were faithfully given, and after using it six days, the fever left him. I then informed him of what he had taken, and he expressed himself much satisfied with the medicine having been so palatable.

Case III.—A negro woman had been subject to intermittent fever for six months. She was a sensible woman, and attributed her complaints to the situation of her house. She was quite regular, and had children. She had used bark and snake-root, but the fever still remained. The extract of the coffee, along with a scruple of the powder, was given for ten days, and the quantity faithfully administered. She expressed herself much relieved, and the fever ceased to trouble her, and the remedy was continued for three months.

I could mention four additional cases, treated in the same manner, but they afford merely a confirmation of what has been stated, with regard to the different preparations of the coffee. I should suppose the taste of the patient would guide us. Perhaps, that one which is sold under the name of the essence of coffee would prove very beneficial.

The next substance that I employed as a substitute for bark was the *lignum quassiæ*, a plant already well known in England. From the nature of the wood, it is impossible, without great labour, to reduce it to a fine powder. A watery infusion is the common mode in which it is given.

The bitter is very pure, but by no means unpleasant. In cases of intermittent fever, it has been used with complete success. I have several times given it, finely rasped, to the extent of several drachms in the day, and never found it to irritate the stomach, but its most beneficial effects are shown when it is given during continued fever. It is a practice adopted by many medical men in this island, and their success speaks highly in its favour. We are told to stop the bark the moment fever appears, but, to make up for the lost time, to throw it in freely during the intermission. This caution may be proper when we use bark alone, but there is no occasion to attend to it when the bitter infusions are trusted to. I have often given the bitter infusion, combined with snake-root, during hot fever, having previously well evacuated the bowels, and never found reason to alter the practice. On the contrary, the patients, many of whom had previous fevers, expressed great satisfaction at the present mode of treatment, when compared with that they formerly underwent in using bark. In no instance were the symptoms in the least aggravated, nor did irritation of the stomach come on; a symptom which, in the fevers of this country, baffles all our best directed endeavours, and which I am confident is often brought on by giving the bark improperly.

I could adduce the testimony of many most respectable medical gentlemen, in support of the above mode of practice, and in whose opinion, formed from long experience, the bark has lost much of its original character. When we consider the high price of bark, and how much we are exposed to the dishonourable dealings of the retailer, we should be anxious to grasp at every circumstance which holds out the smallest hope of bettering the condition of our suffering fellow-creatures, by combining the different plants possessing the bitter principle in its greater purity. By attending more minutely to the mode of practice adopted by the ancients in these complaints, before the introduction of cinchona, we will greatly advance our knowledge of intermitting diseases. Occasionally we meet with cases where the whole host of febrifuge remedies is unable to dislodge the enemy. Month after month elapses. The disease is still regular in its attacks. In vain the patient has recourse to every expedient, and eagerly follows the suggestions of every ill-timed officiousness, till, worn out, the very shadow of existence, he sinks into a premature grave. Should his situation be more fortunate, should those that are around him act towards him as friends, (a rare case in this island,) and remove him to a lowland situation, to breathe the purer air from the ocean; without using any remedies, the disease leaves him in a few days, and in a short

time he returns with the enjoyment of health. We may now demand what is the analogy between arsenic, charcoal, cinchona, and change of air,—for all these are febrifuges? How long will mankind continue to be amused with words as substitutes for knowledge, and sit down contented with their specifics, thinking they have obtained the ultimatum of information, while, in reality, they are allowing those opportunities to pass by them, which hereafter could entitle them to say that this portion of medicine at least is blest with *certainty?*

My situation does not allow me to proceed farther with this subject at present. In a future number I may detail to you the results of experiments and researches connected with this subject, and the materia medica in general.

St Thomas in the Vale, Jamaica, 1818.

III.

Case of Violent Concussion of the Brain. Communicated by Mr G. F. Edwards, M. S. A. Member of the Royal College of Surgeons, and Surgeon at Bath.

On the 16th of June 1818, Mr P. of this city was on a ladder at the height of about ten feet; the ladder slipt from under him, and he fell head foremost upon the pitching. When taken up the blood spun out of his nostrils and right ear in a very considerable quantity; and he was quite sensible for a few minutes after the accident. In this state he was brought home and put upon the bed, with his head kept erect by pillows. I saw him about twenty minutes after the accident. At this time he was insensible, and it appeared, from the circumstance of his having been sensible, that the force of the concussion was too great for that state to be maintained any length of time. His breathing was slow, interrupted, and stertorous. The eyes were partly open and motionless; and, by the application of a strong light from a candle, the pupils, which were widely dilated, did not contract. The pulse was slow, firm, and about 60 in a minute. The limbs were relaxed, and extremities cold. I examined the scalp, and perceived a dark spot on the posterior portion of the right parietal bone, about the size of a sixpence.

I considered the nature of the case to be extremely alarming,

and was confident that the injury was so great, that little could be promised from any effort made to save him. It did not appear to me that the skull was fractured with depression, because there was not an entire abolition of sense at the instant of the accident; therefore I considered the case to be violent concussion, with a breach of considerable vessels within the cranium, which caused immediate and considerable extravasation upon the brain, and all the symptoms of the most alarming depression.

In order to relieve the brain I opened the temporal artery, and extracted about eighteen ounces of blood by weight, and got, with difficulty, into the stomach eight grains of calomel, and ten of jalap. I next shaved the part where the blow appeared, which by this time was puffy, and made an incision down to the pericranium, (not with the expectation of finding a fracture, but with the determination of applying the trephine to allow of the escape of any effused blood that might be extravasated from the rupture of vessels,) and found that membrane detached from the skull to some extent, but could perceive no fracture. This circumstance confirmed my suspicions of a quantity of blood being shed within the cranium from some material vessels ruptured at the moment of the accident.

I applied the trephine at this spot, and, when a piece of bone was removed, blood in very considerable quantity issued from the opening. Some of the blood was grumous, and some in a liquid state, which came from above the part where the opening was made. The head was put into that position which favoured the escape of the blood; and as the breach of vessels appeared between the skull and dura mater, some hopes were entertained that the pressure on the brain would be removed by getting away the blood. Finding the symptoms not in the least abated, and more blood constantly accumulating, I thought it advisable to make another opening; accordingly the trephine was applied on the posterior portion of the left parietal bone, and, when a piece of the bone was removed, the same effects followed as on the removal of the first portion. I thought, from the quantity of blood already effused, and its continuance in a fluid state, that some of the large branches of the spinous artery of the dura mater had been ruptured by the violence of the blow.

It was impossible to determine the extent of the extravasated fluid, although the evidence was so clear of its being between the skull and dura mater, and under the part that received the blow. The symptoms alone justified the opinion that the greater part of the posterior portion, in particular, of the dura

mater, must be covered with blood, and most likely a breach of some of the vessels in the pia mater contributed also to the excessive pressure on the brain. Suffice it in this place to observe, that every effort that human means could suggest was made to remove the pressure; but all was unavailing; he died in three hours.

Examination ten hours after Death.

A transverse section of the scalp was made from ear to ear, dividing the occipito-frontalis tendon, by which the two flaps were brought with ease over the face and posterior part of the head. At the spot where the blow was received, the pericranium was detached to a considerable extent, crossing the sagittal suture posteriorly towards the occiput. The superior part of the skull was now sawn all around and removed, which exposed a mass of coagulated blood, (in weight twelve ounces,) extending over that part of the dura mater which covers the right hemisphere of the brain, from the situation of the coronal suture to the occiput, and likewise over the posterior portion of the dura mater, on the left side, from the sagittal suture downwards.

The arteria meningea media was ruptured at that part where it emerges from the sphenoid bone to appear at the anterior angle of the parietal. From this artery the blood was very liberally poured; and by its own gravity carried to the posterior part of the dura mater. After removing all the grumous blood an incision was made through the dura mater, beginning from the crista galli through its whole length to the ridge of the occipital bone. The internal surface of the dura mater was studded with dots of blood, from the rupture of small vessels; probably veins, passing from the pia mater into the sinuses.

The vessels of the pia mater were fully injected, and a large spot of extravasated blood was discovered on that part of the pia mater corresponding with the first opening on the right parietal bone, where the blow was received. The blood was evidently effused from the rupture of vessels belonging to the pia mater, and sunk into the convolutions of the cerebrum.

The hemispheres of the brain were now separated gently, so as to expose the corpus callosum. At this part of the examination every thing was in a natural state; consequently I cut away all the cerebrum until the corpus callosum appeared, in order that I might the more readily examine the lateral ventricles which lie under the medullary arch. The right lateral ventricle was laid open, and a quantity of coagulated blood, about a dessert spoonful, was lying at the posterior part. The left ventricle contained serum tinged with blood. I cannot say from what vessel this blood was effused; whether from the

anterior cerebri, (a branch of which runs over the corpus callosum,) or from the plexus choroides; the latter appear to me most probable, as they were very much distended, and these vessels run immediately into the ventricles to pour their contents into the vena Galeni.

Having removed the grumous blood and serum from the two lateral ventricles, I pursued the examination, following the course of the plexus choroides through the foramen Monroianum. I separated the thalami nervorum opticorum, and discovered the third ventricle, which contained a tea-spoonful of serum tinged with blood. Every other part of the cerebrum was perfect and natural in appearance. I now removed all the superior lobes of the brain and the hinder part of the skull to expose the tentorium and examine the cerebellum: every thing in this view of the brain presented a natural appearance. The lobes of the cerebellum were now separated, and the fourth ventricle brought into view; every part was perfect except the calamus scriptorius, which had several spots of blood upon it, whether from the concussion or not at the time of the accident, I am not able to determine.

Remarks.

The violence of the blow at the posterior part of the head caused not only excessive concussion, but a breach of vessels within the skull and brain. It appears from the examination, which I made with as much accuracy as my time would admit, that the immediate cause of death arose from the laceration of vessels in the brain, which poured their contents into the right lateral ventricle. I cannot determine whether the rupture of the spinous artery of the dura mater alone would have proved fatal, although the hemorrhage was great, when a good and sufficient outlet for the blood was made. I should be inclined to think not, and for this reason,—the pressure would, in that case, have been removed, and the functions of the brain most probably resumed. But when such an effusion happens, conjoined with lacerations of vessels within the brain, no art can avert the evil.

The circumstance of the trifling interval of sense, which was perfect in this case, decidedly confirms other authorities, that concussion with a breach of vessels is accompanied generally with an interval of sense, occasioned no doubt by a recovery for a short time from the concussion, until the contents of vessels lacerated by the blow are poured into and upon the brain, which occasions pressure and the loss of sense, never again to return. It may, I think, be fairly presumed, that, if no vessels

had been ruptured, either upon the pia mater or those which emptied themselves into the lateral ventricles, this case might have recovered; at any rate; the chances were favourable to such a result; because the temporal artery was opened immediately, and a large quantity of blood extracted; and also an opening was made in the skull sufficiently early to let out the blood effused on the surface of the dura mater.

If I had not given all these chances to the life of my patient I should have deemed myself blameable, and, that they were not successful, can only be attributed to the causes which were so manifestly displayed in the dissection.

Bath, August 28, 1818.

IV.

A Case of Concussion, with Violent Re-action. By James M'Intyre, Surgeon, Newcastle-upon-Tyne.

John Hornsby, aged 27, a pitman to business, stout and athletic, fell upon a railway, down a pit-shaft, 36 feet from the surface, on the 16th October 1818. At 10 o'clock, P. M. I was called to him, being two hours after the accident. On examination, I found two lacerated wounds on the back part of the head, each 1½ inch long, both exposing the cranium; his shoulders, back, and loins severely bruised, his thighs, breech, and scrotum much discoloured; pulse 60, weak and languid; breathing laborious; his countenance pale and ghastly; his extremities cold and benumbed; his eyes heavy and glazed; often desiring change of posture; and unable to void his urine. Six bottles of hot water were immediately applied to the soles of his feet, the palms of his hands, and different parts of the body; warm fomentation to the bowels. The wounds, &c. being dressed, 40 drops of laudanum were given in a glass of hot spirits and water: at 11 and 12 P. M. the spirits and water was repeated without the laudanum.

17th. 1 A. M.—At length he showed some signs of general warmth. 2 A. M.—Breathing laborious, with constant pain in the chest, and region of the bladder, increased on inspiration, or the slightest pressure. Five or six ounces of thick bloody urine were drawn off with the catheter, his pulse being now above the healthy standard, and the veins seeming dark and turgid; 8 ounces of blood were taken from the arm, a pint injection administered, and ten grains of calomel given at a dose. 7 A. M. Pulse 90, severe pain in the chest, with constant thirst and uneasiness; 16 ounces of blood were taken from the arm; the pulse fell to 70,

weak and tremulous; a mixture, with 3 ounces of sulphate of magnesia, ½ to be taken every two hours till it operates. 5 P. M. Pulse regular; seems more composed; has taken all his medicines; had three or four scanty stools; expectoration and cough being troublesome, an oily emulsion was ordered; likewise lb. ss. of strong infusion of senna with salts, to begin in the morning, and repeated till the bowels are freely opened.

18th. 9 A. M.—Pulse 90, wiry; has taken all his medicines; had two motions, and made his water freely; breathing laborious; his countenance anxious and desponding; his abdomen tumid and painful; cannot bear the slightest pressure; 40 ounces of blood were now taken from the arm. At one period of the bleeding the pulse rose to 104; it then fell to 70; soft and pleasant; 12 grains of calomel to be given immediately; the purging mixture repeated.

19th. 12 noon.—Pulse 80, wiry and vibrating; medicines operated partially; had delirium during the night; thirst, fever, and restlessness continue; abdomen painful, tense, and puffy: 36 ounces of blood being now taken from the arm, he became pale and faint for the first time. The arm being bound up, and examining the pulse, I was much surprised to find it above 100, full and throbbing. Having removed the bandage, 12 ounces more were allowed to flow in a full stream. Pulse now 70, soft and pleasant to the feel. He expressed himself much relieved from the last bleeding. Two of the pil. rhei to be given immediately; lb. i. of the purging mixture to be repeated; lb.ss. of the mist. magn. c. rhei; lb. i. effervescing mixture to be taken in small doses.

20th. 12 noon.—Has taken all his medicines; voided 31 dark feculent offensive stools; had return of delirium during the night; wounds on the head healing mostly by the first intention; pulse 80; abdomen much subsided; pain less on pressure; thirst and fever abated; 8 leeches to be applied over the bowels, and 4 on the temples; all the medicines to be continued as yesterday.

21st. 1 P. M.—Has taken all his medicines; voided 15 feculent offensive stools; pulse 108; severe headache, with occasional delirium; pain in abdomen nearly gone; 14 ounces of blood were now taken from the arm. During the flow of blood, the pulse rose to 116; it then became weak and tremulous; feels his head much relieved; can turn it from side to side, without causing that intolerable pain he had during the night. A dose of pills, with 1 grain of opium, and 5 of camphor, to be taken at bedtime; the effervescing and rhubarb mixtures to be repeated; and six leeches to be applied to the temples.

22d. 2 P. M.—Pulse 88; rested well during the night; fever much abated; pain of bowels entirely gone; has an inclination to eat. The pills and rhubarb mixture to be continued, and six leeches to the temples.

23d. Pulse 84; has no particular pain, but complains of general soreness and difficulty of expectoration. Pills and emulsion repeated.

24th. Pulse 86; continues improving. The pills to be continued.

25th. Pulse 84; rests well; bowels regular; wishes a little animal food. To have a little chicken for dinner; lb. ss. of camphor mixture, and an ounce of tinct. colomb., two spoonfuls to be taken three times a-day.

26th. Pulse and bowels regular; pills to be repeated.

27th. Continues improving.

28th. Pulse regular; appetite improving; sat up for an hour yesterday; found himself much refreshed. One ounce of decoction of bark to be taken three times a-day.

31st. Is quite convalescent, having no complaint except general weakness, accompanied with shifting pains, and takes no medicine.

Nov. 11th. Walks about the village; seems in every respect well.

Jan. 1. 1819. Has been employed at light work for some time back; two days ago he resumed his work as a pitman, and has no complaint, organic or visceral, as far as I know.

I feel indebted to Mr Gray for his assistance, on one or two occasions, during the above treatment.

V.

Case of Eczema Rubrum, with Remarks. By ANDREW CRAWFORD, Junior, M. D. Physician to the Hampshire County Hospital, Winchester.

THE following case of eruption, occasioned by the use of mercury, was considered as having arisen from some different cause, when the patient was admitted into the hospital in this city, as she had never been the subject of syphilis, and had not, as far as she knew, been using mercury in any form when the eruption first appeared. But, some time after her admission,

it was discovered that she was seized with it after exposure to cold, while taking, for a cough, some pills, which she was desired to discontinue, if they should affect her mouth. From this circumstance, I think there can be no doubt that they were mercurial, and I am inclined to attribute the origin of the disease to their influence on the system.

Sarah Ellcock, aged 34, was admitted into the hospital July 3d, 1816. There was a copious discharge of a thin yellowish ichor, from the greater part, or, I might say, the whole, of the surface of her body, and the cuticle was scaling off in large pieces, leaving the surface under it of a red colour. The discharge was of an offensive smell, and was most copious from the groins, the inner surface of the thighs, the axillæ, and at the bends of her arms. Her appetite was good; tongue clean; pulse about 110; bowels rather loose; catamenia irregular.

She said she had had a fever about nine months before, from which she recovered perfectly. It was about six months afterwards that she began to use the pills I have mentioned above. Having taken one every night for three weeks or a month, and having been exposed to cold, an eruption broke out over her *whole* body, beginning on the epigastric region, and on the arms and thighs. In the course of a day or two there was a considerable exudation, most copious from the bends of the joints, excoriating, and producing fissures in the skin, which were painful on motion. Immediately on the appearance of the eruption, she discontinued the pills, and had been at one time almost quite recovered, but had afterwards suffered a relapse.

The ung. cetacei was ordered to be applied to the parts from which there was the greatest discharge; decoction of bark was prescribed internally; and she was desired to use the tepid bath. Subsequently the cerat. plumb. superacetat. was applied to the parts chiefly affected, and sulphuric acid was given internally. Under this treatment, the discharge soon ceased, but the skin still retained a reddish colour, and she had frequent relapses. By the end of August, the cuticle having *entirely* scaled off, and the hairs having fallen from the scalp, every part of the body was of a natural colour, and completely dry, except the nape of the neck, and the axillæ, from which there was still a very slight discharge. Having so far recovered, she only remained in the hospital in order that the cure might be confirmed, and, on account of an ulcer on her leg, for which she was put under the care of one of the surgeons.

On the 20th of October, the eruption returned in exactly the same manner, according to the patient's account, as it had first appeared. Upon inquiry, it was found, that, although she

had not been taking mercury internally, in any form whatever, yet there had been applied around the ulcer on her leg an ointment, partly composed of ung. hydrarg. nitrat, and with this she had also, of her own accord, and without the knowledge of the surgeon, anointed the axillæ, which were still hard and rough. Having done so for five or six days, and having, as she thought, caught cold, the eruption again appeared.

It was ushered in with chills, which were followed by heat and itching of the skin. The integuments were of rather a dark red colour, and appeared distended, particularly on the face, which was much swollen. The tarsi of the eyes were considerably inflamed; pulse 120; much thirst; appetite good; bowels regular. On close inspection, the eruption had the appearance of innumerable minute vesicles; these, after two or three days, discharged a thin yellowish ichor, eroding the skin, and reducing the patient to the same state as when she was first admitted.

The liniment. aquæ calcis was applied to the parts from which there was the greatest discharge, and citric acid was prescribed internally. As soon as the irritation of the skin was somewhat diminished, recourse was also had to the tepid bath; and, under this mode of treatment, by the 6th of November, the surface of the body was completely dry and of a natural colour.

Dr Moriarty mentions a case, communicated to him by Mr Hewson Bigger, in which the eruption was reproduced three or four times by the use of opium. The same consequence followed its exhibition in this case. On the 9th of November, the patient took one grain at bed-time. She felt a tingling sensation over the surface of her body in the course of half an hour, or a little more afterwards, and, by the next morning, there was a considerable exudation, accompanied by the same symptoms as in the former attacks. The liniment. aquæ calcis was ordered as before. The tepid bath was used as soon as the irritation had somewhat subsided; and, by the 17th, the skin was completely dry.

After this she had, once or twice, a very partial redness and exudation, which could only be attributed to the coldness of the ward. On the 11th of December, she was dismissed from the hospital, the skin being at that time perfectly dry, and of a pretty natural appearance.

The advantages derived from the method of treatment in this case must be chiefly attributed to the external remedies. Indeed, it is doubtful that those used internally were of any benefit. The last attack, in which there were none applied, was sooner terminated than any of the preceding. It, however, ap-

peared to be less severe, though the surface of the body was very generally affected.

While the irritation was considerable, the liniment. aquæ calcis seemed to be of the most benefit, by lessening the disagreeable itching sensation, rendering the motions of the joints less painful, and tending to diminish the discharge. After the irritation had somewhat subsided, the tepid bath appeared to be of considerable service, by cleansing the skin, and detaching the loose cuticle.

It has been questioned, whether this disease ever occur, except when the system is under the influence of mercury. Dr Rutter's case, in the 5th Volume of this Journal, and Dr Marcet's, in the 2d Volume of the Medico-Chirurgical Transactions, sufficiently prove, that, when a person has been previously affected with the disease, it does sometimes recur without the use of mercury. But it does not appear certain, from our present knowledge, that, in any case, the *first* attack has happened, except when the constitution was under its influence. Dr Rutter's patient was first seized while under a gonorrhæa, for which he had taken mercurial pills till his mouth was affected; and Dr Marcet's had the same disease, for which he had used *some internal remedies*, but none of which affected his mouth. It is not improbable, however, that these internal remedies were mercurial, and that by them the disease was produced. In the case I have just related, the pills which the patient was taking, when the eruption first appeared, never affected the mouth, and yet there is not much reason to think, that the cold to which she was exposed would have, of itself, produced the disease. Since a few grains of calomel, a medicine prescribed in so many diseases, sometimes occasion salivation, and, as this eruption has occurred during the exhibition of mercury, although the mouth was not at all affected, it would require a very intimate knowledge of the patient's previous history, to enable us to pronounce that the disease is not attributable to mercurial influence.

Some have supposed, that exposure to cold is also necessary for its production, even when the system is under the influence of mercury. In most of the cases related, it certainly did supervene on exposure to cold; and this circumstance, together with the frequent attendance of catarrhal symptoms, and the power which cold possesses, in some instances, of producing the disease, in those who have been previously affected with it, certainly favour the supposition But, on the other hand, in some cases, it was not observed that the patients had been exposed to cold; Dr Moriarty says, there was more commonly an

increased heat of the atmosphere when the disease most prevailed; and, in a case related by Mr Ramsay, in the 7th Volume of this Journal, the eruption was reproduced by the exhibition of mercury, although the patient was kept constantly in a warm temperature.

From Mr Ramsay's case, it appears, that the disease may be brought on by mercury, without exposure to cold, provided the patient have been previously affected with it. And, by Dr Rutter's and Dr Marcet's cases, cold is also shewn to be capable of producing it in a person that has been subject to it before. But it does not appear certain, that either mercury without exposure to cold, or the latter without the use of mercury, has occasioned its first appearance. It may, therefore, be concluded, that the system, by being once affected, is rendered more susceptible of the same diseased action again.

Mr Hewson Bigger's case, mentioned by Dr Moriarty, in which the eruption reappeared three or four times on the exhibition of opium, and the recurrence of the disease in Ellcock immediately after taking one grain of that medicine, prove, that, by it, at least in some instances, the disease may be occasioned in those who have been previously affected with it; and thus mercury and cold are shewn to be not the only exciting causes of the eruption.

Dr Spens has properly remarked, that, in those who are attacked by this disease, there must be some peculiarity of constitution which predisposes them to be so affected; for it is much too rare an occurrence to be a necessary consequence of any, or all of those causes we have mentioned.

As this eruption puts on a vesicular form, the appellations of mercurial *erythema*, or *lepra*, are inapplicable to it; and as mercury is not the only exciting cause, it is improper to denominate it *hydrargyria* or eczema *mercuriale*. Dr Bateman describes it under the title of eczema rubrum; and, although it differ from the definition of eczema, in being attended with redness and inflammation around the vesicles, and often with some febrile symptoms, yet there is no other genus in the vesicular class to which it is so closely allied.

Winchester, October 31, 1818.

VI.

Case of an Unusual Termination of Phthisis Pulmonalis, by a Sudden and Fatal Hemorrhage from the Lungs. By S. G. Lawrance, Member of the Royal College of Surgeons, London, and Assist. Surg. to the Military Asylum, Southampton.

C—— R——, aged 19, a delicate female, was suddenly attacked with a spitting of blood, while walking, on the 26th December 1817, and five or six ounces of blood were expectorated. It recurred on the 27th, when nearly an equal quantity was lost. She has had a cough, with occasional pain in the chest, for some time, but until now, had had no medical advice. She had always menstruated very irregularly.

Venesection and the usual antiphlogistic mode of treatment were employed. The hemorrhage did not return, but the cough continued until the beginning of February 1818, when it entirely left her, and, though much debilitated, her appetite returned, and she appeared to be perfectly recovered.

She remained well until the beginning of April, when she caught a severe cold, and the cough then returned, with copious expectoration, occasionally streaked with blood, and continued, in spite of every mode of treatment. The expectoration at length became purulent, attended with the usual symptoms of phthisis, with hectic fever, profuse night-sweats, &c. Digitalis was given with benefit, appeasing the cough, which was the most troublesome symptom, and lessening the frequency of the pulse; but yet with no permanent benefit, for when discontinued on account of its producing slight vertigo and an intermitting pulse, in a short time the cough returned as before, the pulse varying from 80 to 100.

Tar vapour, as lately recommended by Sir Alexander Crichton, was also tried, but the cough was not mitigated, nor did any benefit appear to result from its use. Being originally thin and delicate, she soon became greatly reduced and emaciated, and the phthisical symptoms rapidly increased. On the 9th of September, during a violent fit of coughing, she suddenly spit up two large masses of coagulated blood, of a very firm consistence, resembling pieces of liver; their upper surfaces were covered with frothy mucus, and had a cellular appearance. The largest mass weighed upwards of an ounce and a quarter, of which a rough sketch is annexed; the lesser, three quarters of an ounce. This was followed by an immediate and profuse hemorrhage, and she instantly expired.

Examination of the Body.

Thorax.—The *lungs* on both sides of the chest adhered very firmly to the costal pleura, and their investing pleura was much

thickened. The *right lung* was tuberculated, and had a few small vomicæ in it. The *left* was much more diseased, being full of tubercles, and small abscesses, and at the upper and back part of this lung there was a large cavity, containing only frothy blood and mucus; in this, no doubt, the large coagulum had been contained, as the cavity corresponded in point of size.

The *pericardium* was thicker than natural, and contained about ℥i. of serum.

The *heart* was small, flaccid, of a pale colour, and contained very little blood in its cavities. There was no extravasation of blood or other fluid in the thorax.

Abdomen.—The liver was much larger than natural, extending quite across the abdomen, so as to cover the stomach, to which it was connected by thread-like bands, and its upper surface firmly adhered to the peritoneum, and to the diaphragm. The *stomach*, *spleen*, and rest of the abdominal viscera, shewed no marks of disease.

Remarks.—The dissection proves this to have been a case of phthisis pulmonalis, and its unusual termination was the more extraordinary and unexpected, as there had been no recurrence of hemorrhage from the 27th December 1817, until her death. For the last two months I daily observed the expectorated matter, and it was scarcely ever *even streaked with blood.* The time, therefore, when the blood, which formed the coagula, was first effused into the lung, is uncertain, but that they acted as plugs to the mouths of the pulmonary vessels which had been ruptured is evident, and that they performed this office for some considerable length of time, is, I think, proved by what I have stated above, as well as by the very firm and solid texture, and general appearance of the coagula.

Southampton, Oct. 5, 1818.

VII.

Case of Complicated Hernia, cured partly Spontaneously, and partly by Operation. By Mr Edward Welchman, Jun. Kineton, Warwickshire.

Thomas Constable, of Butlers-Marston, Warwickshire, aged 59, has been subject to rupture on the left side many years; which he said he had always been able to reduce with the greatest ease, until to-day, 13th May 1818, about two o'clock, when the hernia appeared whilst he was shaving. His usual efforts to reduce it were unsuccessful, and he soon experienced considerable pain; at length, becoming very uneasy, he sent for surgical assistance. I went to him in the evening, and found him with a hernia, of the mixed characters of femoral and inguinal, but most decidedly of the former, agreeing with Mr Goate's opinion, who had previously seen it, and attempted its reduction. Accordingly I attempted to reduce it as a femoral rupture, but failed. About twelve o'clock I administered a common enema, and at one o'clock, *ant. merid.* of the 14th, I injected a tobacco glyster, (℥ij. to a pint.) Sickness came on in five minutes, and presently became exceedingly distressing. In twenty minutes the pulse became very small, and perspiration profuse. I now attempted again to reduce the rupture, still unavailingly, and left him, desiring the attendants to prepare some hot water for the slipper bath, which, not being at hand, and the water being obliged to be heated at a neighbour's house, occasioned a great delay, so that it was eight o'clock before he was placed in the bath, where he remained half an hour. The taxis was again tried, both by my father and Mr G. but in vain, and these endeavours considerably increased the pain: pulse 60 and small; sickness stopped; hiccough at times. The operation was now determined upon, and commenced at ten o'clock. On opening the sac, a considerable quantity of a dull-coloured bloody fluid escaped at first in a jet, and afterwards continued to ooze out. The contents of the sac were partly omental, and in part intestinal; the latter, with a portion of omentum, protruded through the femoral ring; the remainder of the omentum came through the inguinal canal. The two pieces of omentum were united by adhesive inflammation, apparently old. The nuckle of intestine, about an inch and a half in diameter, had exactly the appearance of a coagulum of venous blood; the whole of the omentum looked healthy, except that the veins were very turgid. The falciform process of the fascia lata con-

tributed in a great degree to form the stricture,* for it was with difficulty that I inserted my nail between it and the intestine, and divided it without the use of a directory. This being done, a very slight incision of Gimbernat's ligament, nearly at its insertion in the pubes, allowed me to return the intestine easily.

Besides the connection of the two portions of omentum to each other, there were little bands of adhesion extending across the inguinal canal, confining the piece of omentum protruding through that aperture in its situation. Upon a more particular inquiry, I now understood, that our patient had not been able to reduce the whole of his rupture, and he thought there now remained about the same bulk as usual. I left the omentum as I found it. The integuments were brought together by three sutures and adhesive straps, with compress and bandage over it.

He was ordered to take small doses of a mixture containing sulphate of magnesia and carbonate of magnesia every two hours, till stools were procured, and to assist its operation by glysters, if it did not procure stools in four or five hours. I saw him in the evening, by which time he had had three comfortable evacuations from the bowels. Pulse 80 and soft; skin moist; he is cheerful.

15th. This morning pulse 80 and soft; when he moves, feels soreness at the wound, and sometimes a little pain in his bowels, as he supposes, from wind, being relieved on passing it downwards; no pain on pressure; skin moist; tongue a little dry; has had four more stools; slept well; ordered a saline mixture. In the evening his pulse had risen to 100; had felt more pain; could bear moderate pressure without complaining; had had thin stools since morning; I took twelve ounces of blood from his arm.

16th. Has had a comfortable night; no pain; pulse 74; skin cool and moist; no buff on the blood drawn last night; one stool this morning a little formed; ordered some aperient mixture.

17th. Same as yesterday; wound dressed, which looks well.

Nothing worthy of notice happened from this time. He was quite well by the 31st. He wears a bag truss covering the tumour, which is about the size of a duck's egg

Observations on the above Case.

The jet of fluid that immediately escaped on opening the sac, proves how much it was distended, and if the degree of stricture be considered, the collection of fluid to such an extent points

* See Lawrence on Hernia, p. 354, Second Edition.

out the accuracy of Mr Charles Bell's remarks, as to the manner in which the sac and intestine fill and become distended.* This fact being established, should urge us to the earliest attention in endeavouring to reduce a hernia; and when well directed efforts have been made without success, the operation ought to be had recourse to immediately, for the difficulty of reduction must increase every moment after strangulation has taken place.

There is nothing very uncommon in the existence of a femoral and inguinal hernia at the same time on the same side; but that the two portions of omentum should have been united, and, particularly, that the inguinal hernia should have undergone a spontaneous cure, is, I believe, a novel circumstance. I conclude the latter happened about six years ago, when the man says, that pain in the left groin came on suddenly, and continued so violent for about three or four hours, that he could not help throwing himself about, when the pain suddenly diminished, leaving a soreness which lasted three or four days. The acute pain I suppose to have arisen from a small portion of intestine having been strangulated at first, and the sudden diminution of pain may be ascribed to its release. The subsequent soreness seems to indicate that an inflammation had been produced. Whether the two portions of omentum became united at this time is doubtful: it might have happened from pressure. It is equally inconclusive, I apprehend, which of the ruptures took place first. The peritoneal coat of the femoral rupture was very distinct, except where the omentum had adhered. I could not make out the proper sac of the inguinal rupture, and did not like to lengthen the period of the patient's suffering, by making a more particular examination.

VIII.

An Account of some Alarming Symptoms caused by Spiculæ of Bone in the Stomach. By Joseph M'Sweeny, M. D.

Although the power of digestion has been found capable of subduing very hard substances, yet the human stomach, which often with difficulty digests solid articles of food, may be found sometimes incapable of acting on so solid a substance as bone. Even where the power of the organ is capable of acting on such a substance, in some cases so long a time may be necessary, that the foreign body may be productive of serious consequences. It is not to be inferred, that every substance diffi-

* Surgical Observations, Part Second, p. 181.

cult of digestion, or indigestible, is kept from passing out of the stomach. Daily experience shows, that the pylorus does not keep so strict a guard. Different indigestible substances have passed through the alimentary canal; even articles of food have passed unchanged. No doubt, pieces of bone of an unirritating shape have also passed without causing inconvenience. The pylorus not being irritated by a smooth body, can gradually dilate, and can allow it to pass without producing uneasiness; but where sharp spiculæ of bone have been swallowed unnoticed, alarming, perhaps fatal consequences, have ensued, without the cause being suspected. From the consideration of the pylorus, we must perceive the obstacles it will oppose to the passage of a sharp body. It is endowed with contractile power, and is sensible to a stimulus. The contact of a sharp body must stimulate it violently, and must consequently cause it to contract, and thus oppose the passage of that which irritates it.

A gentleman at dinner swallowed a small fragment of bone. On the same evening, uneasy symptoms came on. He felt a pain in the centre of the scrobiculus cordis rather dull, but causing great anxiety. It sometimes changed its situation, but was mostly referred to the centre of the scrobiculus cordis. He sometimes had intervals of ease, at other times his sufferings became aggravated in a violent degree. He then could not point out the situation of the pain so exactly as before. It was felt more internally, as if some part inside was grasping some sharp body. In this state his body was bent, his hand was firmly pressed against the region of the stomach, his pulse became small and quick, a cold sweat broke out over the surface, and his anxiety arose to an alarming degree. From this state he generally found relief by change of posture, and the pain mostly resumed its former situation in the centre of the scrobiculus cordis. He had a constant desire of keeping the hand on the situation of the pain. I had recourse to diluted muriatic acid as strong as I could venture to give it. All bad symptoms ceased under its use, and he found no inconvenience from the acid, which freed him from the state of suffering in which he had been. I met with similar symptoms in the case of a gentleman who was conscious of having accidentally swallowed a fragment of bone at dinner, a good many days before. I had recourse to a similar practice, and with complete success.

Mrs P—le, of Nicolson Street, in Edinburgh, consulted me last winter about a dull kind of pain in the region of the stomach. Not being decided as to the nature of it, I merely recommended attention to regimen. She applied to me a second time, and stated that she was not better, and complained of the great anxiety it caused her. I now suspected, that the pain might arise from a spiculum

of bone accidentally swallowed. On close attention to the symptoms, I found they were the same as those stated above. She had the constant desire of keeping the hand on the situation of the pain, which was mostly felt in the centre of the scrobiculus cordis. There were intervals of ease, at other times the sensation of a sharp body being grasped, threw her into a state of agony. In this state, the pulse became small and quick, and a cold sweat broke out over the surface. Although she had not the least recollection of having taken any thing that would account for the symptoms, yet I did not hesitate in thinking, that the case was similar to those mentioned, particularly as she had taken food in which a spiculum of bone might have been. I added as much acid to a half pint of water as I thought would be sufficient to relieve the symptoms without injuring the stomach. She took this quantity at one draught; but my disappointment was indeed great, when she complained of being rather worse on the following day. The acid had evidently increased the irritability of the stomach without acting on the foreign body. I now supposed that the acid had passed out of the stomach without remaining a sufficient time to act on the spiculum of bone; and as the irritability was increasing daily, I determined not to lose time, but to have recourse to the most vigorous practice at once. I made the diluted acid much stronger than what she had taken the day before; and having taken a quantity of it to be certain that it was not too strong to injure the stomach, I explained her case to her, and she willingly agreed to adopt any plan of treatment I should propose. She took a wine glass of this diluted acid every ten minutes. After a half pint of it was taken in this manner, she took the same quantity in one draught, and I was happy to find, after it, that the pain and anxiety had ceased with which she had been in agony during thirteen days. She now said she felt only a general sense of soreness; she slept well that night, next day she still felt the general sense of soreness, but she was in good spirits, and completely free from the pain. Having recourse to the remedy quickly on account of the urgency of the symptoms, unfortunately I did not ascertain the strength of the diluted acid I used. The standard I employed was to try it on myself in every case, and to take it as strong as I could with safety. The plan employed to prevent the teeth from being injured, was, to make the patient open the mouth as wide as possible, and to protrude the tongue so as to cover the teeth of the lower jaw; the edge of the glass was then rested on the tongue, and the diluted acid was swallowed without allowing it to come in contact with the teeth of the upper jaw. The mouth was repeatedly washed with water. In this manner, the teeth escaped uninjured even in the case of the pa-

tient who had been affected thirteen days, and who took a deal of the acid.

If this patient had been allowed to remain without medical assistance, it may be fairly presumed, that a fatal gastritis or ulceration of the stomach might have at length ensued. A thickened or ulcerated state of the pylorus might have been caused, and I am afraid, that affections of this kind have been classed under the title of scirrhous pylorus, while the cause of the mischief has not been suspected. It is possible that an ulceration would take place, through which the contents of the stomach would be extravasated into the abdomen. A small fragment of bone might easily escape observation when enveloped in the ingesta of the stomach. It would be a desirable thing that the attention of examiners would be in future directed in search of such a cause in cases of extravasation of the contents of the stomach into the abdomen, and in cases of diseased pylorus. There is some danger of confounding the symptoms with those of cramp of the stomach, as a patient may have swallowed a spiculum of bone without being aware of it. The bent position of the patient, the contortions of his body, his hand pressed against the seat of the pain, the anxiety depicted on the countenance, and the intervals of ease, may deceive a practitioner suddenly called in, and may lead to injurious practice. These symptoms may be distinguished from those of cramp of the stomach, by the following marks: The pain is mostly felt in the centre of the scrobiculus cordis, and is described as if it could be covered with the point of the finger. In this situation, although the patient has a desire of pressing the hand gently against the seat of the pain, yet very firm pressure increases it. When the pain is felt more internally, causing the sensation of something being grasped, firm pressure gives relief, the pulse becomes quick and small, and a cold sweat breaks out over the surface. Perhaps it may be asked, would not it be better to employ an emetic in such a case? A person took an emetic on account of having accidentally swallowed a sharp body, and soon after expired. As the surgeon who was called in to examine the body, and by whom I heard the case related, will probably give the particulars in some periodical work, I shall not anticipate him; but the account of the dissection was quite sufficient to prevent me from employing an emetic. As a sharp body is prevented from passing, on account of its irritating the pylorus, a purgative medicine was, I think, contraindicated; it would be likely to make the pylorus suffer more. The diluted acid must have afforded relief by acting on the sharp irritating points which were fortunately most exposed to its influence,

and thus allowing that to pass which was before prevented by the irritating points causing the pylorus to contract violently, when they came in contact with it.

IX.

Observations on various Ulcers of the Extremities. By John Foster, Surgeon to the Newcastle Infirmary.

Having experienced the efficacy of Mr Brodie's method of treating varicose ulcers of the extremities, it becomes my duty to assist in establishing the merits of an operation proposed by one to whom the medical world, and society in general, are so much indebted for his useful and well-directed exertions in improving the practice of surgery. My motive, therefore, in placing these two cases of the disease before your readers, is to add my testimony of the safety and utility of the practice, and to direct their attention to the subject, who may not have seen that gentleman's paper, published in the Medico-Chirurgical Transactions.

Varicose ulceration is not only attended with that inconvenience and concern to the patient, which any ulcer is calculated to produce, but it is, moreover, accompanied with disagreeable and painful sensations, and sometimes dangerous consequences. I have seen the pain of this disease, together with the other morbid sensations which it occasions, so harassing, as to make life burthensome; and this I have sometimes found to be the case, where no ulceration was present, but simply a varicose state of the veins; which, I apprehend, might have been benefited by the same mode of treatment, had it been adopted. I have seen a person almost lost by hemorrhage in consequence of ulceration destroying the coats of a varix; his boot having become filled with blood, and faintness occurred, whilst he was, unconsciously, pursuing his usual occupation.

These circumstances give a more important character to varicose limbs than the disease has generally met with, and convince us of the value of any treatment by which we are enabled to remove so unmanageable a disorder. For it is evident, that it has, at all times, been a source of perplexity to the surgeon, and disagreeable confinement to the patient. Hence the variety of applications, and painful and even dangerous operations,

which have, at various periods, been proposed for its cure; but which, generally speaking, have been attended with no success.

The principles of the operation which Mr Brodie has introduced, are simply to divide the most important varix in a varicose limb with the least possible exposure to the action of extraneous substances, so that the consequent inflammatory action may be merely sufficient to obliterate the varix without the risk of the coats of the veins becoming generally inflamed. I have done the operation with an instrument made according to the sketch which Mr Brodie has attached to a paper in the 7th Volume of the Medico-Chirurgical Transactions. This instrument is a narrow bistoury, slightly curved, and terminating in a sharp point, and has the cutting edge on the convex side. In operating, the most painful and most conspicuous varix is to be chosen. The knife is to be introduced on one side of the cluster, in such a way, that one of its flat surfaces may be upon the coats of the vein, and the other turned towards the integuments. The sharp edge is then to be turned towards the vein, which movement is generally sufficient to divide the varix. The instrument should be withdrawn after the manner it was introduced. I have always found the consequent hemorrhage completely under command. The pain, after I have performed such operation, was trifling; and, when the dressings were removed, which I have usually had done about the third or fourth day after, I have found the orifice closed; and obliteration of the varix seemed to have happened. This event had a surprising effect in reducing the general distention of the limb, and improving the appearance of the ulcer. The secretion became healthy; a vigorous set of granulations formed upon the morbid surface peculiar to this species of ulcer; the callous edges disappeared; and rapid cicatrization ensued.

They who have witnessed the great expence which public institutions incur from these tedious ulcers, and the unsatisfactory trouble they give to the surgeon, will rate this method of treating them as no small improvement in surgery, although it may want the splendour of many of the greater achievements of the art.

Cases.

John Swan, aged 50 years, was admitted into the Newcastle Infirmary on the 24th December 1818, with the following complaints: He has an ulcer above the inner ankle, about two inches long, and an inch broad. It is hollow in the centre, and its surface has an ill-conditioned appearance. The secretion is ichorous, and the edges

hard and elevated. The subcutaneous veins of the limb are much dilated, as far as the groin; and there are two or three painful varices, exceedingly hard, a little above the ulcer. This state of the limb is accompanied with constant lancinating pain, and a sense of increased heat. The veins have been varicose about fourteen years; and the ulceration took place two years ago.

On the 29th of December, I divided the largest varix immediately above the ulcer, with the knife, and in the manner I have already described. The bleeding was profuse; but ceased as soon as pressure was applied. He complained of a little pain for two or three days.

On the 1st of January the dressings were removed, when the varix was found flattened, and the orifice made by the knife healed. The dilatation of the veins appeared to be generally lessened, and the unpleasant feelings of the limb had abated. The secretion from the ulcer was of a better consistence, and healthy granulations were sprouting, here and there, through the morbid surface of the ulcer. The sore went on progressively healing, and was completely cicatrized on the 20th of January, when also every uneasy feeling had left the limb. A tight lacing stocking was applied to the leg, which he was desired to wear until every relaxation of the integuments should disappear.

Thomas Jobling, aged 45 years, had a troublesome ulceration in the leg above the inner ankle, which has been always difficult to heal, and when healed, the cicatrization has been soon destroyed, upon taking the usual exercise.

He was admitted into the Infirmary in May 1817, and at that time the ulcer was similar to the one Swan laboured under. The veins of the leg were varicose, and the integuments œdematous. Other unpleasant feelings connected with varicose extremities were present. As it was desirable for the man that his leg should be effectually cured, I proposed a division of the varix, to which he readily assented; and on the 13th May I divided the largest cluster of varices anterior to the ankle, and below the ulcer. The pain subsequent to the operation never exceeded the pain he was in the habit of suffering from the ulcer. The puncture healed shortly, the veins became generally smaller, and the œdema disappeared: the ulceration healed rapidly; and on the 21st he was discharged cured.

I have seen this man lately, and his leg remains in the state it was when he left the Infirmary. There has not been the least disposition to ulceration, or any morbid action.

Newcastle, April 14, 1819.

X.

On Diagnosis. By Charles Ritchie, Surgeon, Irvine.

"It is to be wished, I say, that some physicians in all ages had made it their business to pursue and improve the doctrine of signs; had that been done, questionless the profession of physic had arrived at its acme long ere now, at least as far as our mortal state will allow."

Baglivi, Book ii. chap. 8.

As there is nothing which can more immediately affect the accuracy or success of a physician's practice than the truth or fallacy of the diagnosis which he is accustomed to form; so there is nothing which ought so powerfully to excite his attention as the peculiarities which different diseases assume. This is a subject of inquiry so essential in our profession indeed, and one which is so apt either to be neglected, or conducted on improper principles, that it cannot be too frequently recurred to, or too strongly insisted on. The experience of the medical practitioner is constantly presenting him with pathological facts to which he is a stranger, and with combinations of disease which he has never anticipated; while the precepts of his art, the most general in their application, are often fettered with exceptions, and the best established of the principles which direct him are subject to changes. A physician, in the exercise of his professional duties, is thus like a mariner in an unknown sea. The leading features of the scene may be familiar in both cases to the imagination, and their probable dangers estimated pretty correctly from analogy, but those of a minuter character cannot be so well judged of, and must consequently require an incessant examination.

The difficulty of this task, known to the physician, must always be as severely felt by him as its necessity, for, as it embraces every thing which is important, so must it also include every thing which is uncertain in his profession. A young man complains of excruciating pain in the heel, rendering him unable to walk, and gradually exhausting him by its severity. He knows of no cause which could produce it, and with the exception of an indefinite fear of inflammation, it may be of the bone, or of the nerve, or of the periosteum, his surgeon is as ignorant as himself. Bleeding, blistering, fomentations, frictions, sudorifics, mercurials, purgatives, and electricity, are all employed, and all employed without effect. The case is dismissed as hopeless, an abscess points at the root of the great toe, discharges matter, and in the course of a few weeks the lad is well.

Such is a specimen of the cases which every practitioner is accustomed to meet with. They may tend to enlarge his acquaintance with disease, and they will point out to him how necessary this is to the right performance of his duties; but they must also not unfrequently convince him how difficult such an acquaintance is to be obtained.

It is not my intention, in this paper, to lay down any thing like positive rules, to be uniformly observed in forming a diagnosis. All that I wish to do is, simply to point out some circumstances which may cause us, if they are not kept constantly in view, occasionally to form an erroneous one; and as examples are in medicine, as in every thing else, the best means of producing conviction, I shall endeavour, as I go along, to illustrate my remarks, from the history of cases which have occurred to myself.

In the first place, then, there is not perhaps any thing which contributes more to the slackness of physicians in relation to inquiries of this nature, or, which is more likely, to blind them to the importance of a careful investigation of disease, than the implicit dependence which some of them place in what they call a *visus eruditus.* I am far certainly from underrating the importance of this faculty to my brethren, but I would have the physician who thinks himself in possession of it, to examine carefully before he applies it to his patient, whether what he calls a visus eruditus may not rather be the fumes of an hypothesis, or the offspring of indolence. A physician who forms his opinions of a case from the first glance which he receives of the countenance of his patient, however highly he may estimate the instinct which directs him, is, to say the least, a dangerous character. The different species of disease are so intimately blended with each other, and the phenomena of morbid actions are so varied, and so flickering, that in medicine, more than in any other instance, first impressions ought to be received with hesitation and suspicion. Occurring to a physician of extensive experience, indeed, these impressions are certainly possessed of no ordinary value; but when it is considered that they are only valuable, even in that case, as they are accurate, and accurate only as they have been corrected by frequent mistakes, and chastened by repeated observation, it is obvious that they cannot be the more worthy in every instance of an implicit belief. An experienced eye, from the appearance simply of the countenance, may detect a case of colic in the crowded wards of an hospital, and one conversant with disease, will seldom be deceived in phthisis or gangrene. But who, on this account, will

be the more ready to believe that there are not combinations of disease which may baffle the most discerning?

It is the abuse, however, of this instinctive quality of distinguishing disease, rather than the quality itself, which I would wish to deprecate here. Whether it be from flattering our self-love, or indulging our propensity to indolence, that is a vice which we are almost certain of being beset with at some period of our career; and whether we view it as it affects our practice, or militates against our happiness, it is one which we cannot be over anxious to correct. From an overweening reliance on this quality of detecting disease at a glance, we are apt, in the first years of our practice, to commit errors which a whole lifetime will not afterwards be able to compensate for; and from being frequently deceived, and nearly always unsuccessful, we are but too much disposed to brand our profession with uncertainty, and continue to labour in it with disgust. The physician who is fond of rating his attainments in this way highly, is almost always in danger either of forming a diagnosis decidedly erroneous, or of seeing the truth but dimly, and after much delay. The fatal consequences which must result from such mistakes as these to his patient, and the unpleasant feelings which they must give origin to in himself, can require no comment. The practical inference which I would deduce from them is simply, that, in the practice of medicine, we should never attach to first impressions more than a secondary importance, and ought always to be on our guard, lest what we think is a visus eruditus, be only a delusion occasioned by a limited and ill-directed course of observation.

The next cause which I would take notice of as being likely to occasion a false or imperfect diagnosis, is a bigoted attachment in physicians to some favourite hypothesis.

From a trial of this nature, I have known an intelligent practitioner discover symptoms of congestion of the brain in two thirds of his visiting list, and open the jugular vein of a patient, whose only complaint was the spleen. I have seen another extremely sharp-sighted in diseases of the liver, and a third who was famous at detecting a pox. An accoucheur has discovered hysteria in the spasms of a tetanic patient; and an advocate for the lancet has occasionally conceived a fit of hysteria to be one of apoplexy.

These extravagancies, were they not so highly dangerous in their consequences, might furnish abundant matter for amusing speculation. There is such a tendency in the human mind to fix on a principle which may be applicable to every exigency, and we possess, at the same time, so great a facility to external

impressions, that it must always be a matter of extreme difficulty to generalize correctly, or to prevent our opinions from being moulded on local and accidental circumstances. A physician who has received his first notions of practice in a tropical climate, or one who has been early conversant with the terrors of a lock hospital, cannot be expected to have many prepossessions in common with those who have been differently placed.—CAMERON was a married man of dissipated habits, and of a scrofulous disposition. There was an ulcer on the prepuce, with a white sloughing bottom, specked with little red eminences; the glands in each groin were swollen and painful. Had this man a pox? One infected with *syphilomania* would have said he had; while another more cautious in his diagnosis, or less fearful of venereal complaints, would have previously inquired, whether it might not simply be the effects of abrasion of the cuticle. The questions necessary to obtain this knowledge are obvious. He was, although dissipated, a married man, and might not therefore have been lately exposed to infection. He was of a scrofulous disposition, and might therefore be supposed peculiarly liable to have his glandular system affected by slight causes. This in Cameron was actually the case. A pledget, smeared in simple ointment, was applied to the ulcer; leeches were placed on the groins, and he speedily got well.—KERR was an old, ignorant, and very poor woman, who had formerly been the wife of a soldier. There was a deep, foul, phagedœnic ulcer in the fauces, another on the chin, and a third on the leg. These, particularly that on the tonsil, were spreading rapidly; her strength was sinking; and any uncertainty, from the delay it would occasion, might have been fatal in its consequences. It was a question, however, whether these ulcers arose from debility, or from syphilis? The evidence afforded by her character, her situation in life, and, I may add, by the appearance of the ulcers, was equally favourable to either opinion, and there was nothing wanting but the prejudices of the medical attendant to make it a case either of syphilis or of starvation. She had cinchona, wine, and a nutritious diet. The proper stimuli were applied to her sores, and she recovered.—LOUDON, a seaman, when abroad, had chancres on the penis, and a suppurating bubo in the right groin. He made no use of mercury till three months after infection; but from this period to the date of his application to the person under whose care I saw him placed, being an interval of more than a year, he had, although at sea, been almost constantly in a state of salivation. When he applied, there was a fistulous sore in the right groin, an excavated foul-looking ulcer of the size of a shilling on the back, another

much larger on the left palpebra and cheek; and the whole tonsil of the same side, with a portion of the velum, were also destroyed by ulceration. The nostrils and fauces were indeed become complete secreting surfaces, discharging immense quantities of purulent matter, and keeping up a constant state of irritation. There was also profuse ptyalism, circumscribed swellings on the tibia ulna and occiput, frequent inclination to cough, and extreme general debility. The question in this case was, Whether are these the effects of lues, or of mercury? It was decided in favour of the first. The blue pill was resumed; mercurial fumigations were applied to the ulcers; and as these did not seem sufficiently powerful in their influence, the sublimate was also given in solution. Bark, wine, and the mineral acids, with a nutritious diet, were also administered, and, along with the mercurials, persisted in for three weeks. At the end of this period, hemorrhage, to the amount of an English pint, took place from the lungs. The ulceration in the fauces now extended anteriorly to the opposite side of the uvula, and posteriorly to the edge of the right tonsil. Pieces of bone were occasionally discharged from the nostrils; the left eye ball was naked at one part; and his debility was now so alarming, as to threaten a speedy dissolution.

The sublimate was discontinued; ten drops of the tinct. of digitalis were given night and morning; and decoction of sarsaparilla, to the extent of two pounds daily, was ordered as common drink. Under this treatment his powers seemed gradually to recruit, his appetite improved, and the rapidity of the ulceration was checked. The sarsaparilla was continued in the same quantity for above a month, and his sores regularly dressed with the yellow wash and turpentine liniment. It is now a twelvemonth since he gave up the use of these medicines, and although his constitution is of course greatly shattered, there is perhaps little occasion to fear a renewal of his complaints.

I might here quote a variety of other cases which have fallen under my own observation, bearing immediately on the point, and proving, in as strong a manner as those which I have related, how apt we are to be influenced in our diagnosis by a limited hypothesis, or a peculiar cast of opinion; but as this would swell my paper to an inconvenient size, I shall proceed to notice some of the other causes which I have seen produce a similar effect.

Next then to the influence exerted by a peculiar mode of thinking, the existence of an epidemic in the immediate seat of our practice may be considered as the most probable cause of an erroneous diagnosis.

During the ravages of a pestilential fever, our fears respecting it become in general so great, and our reliance on shivering, nausea, &c. as certain diagnostics of it, is so very frequently warranted by the result, that it is not surprising though we should sometimes, in such emergencies, be hurried into the mistake of conceiving every case which presents itself with these symptoms as necessarily one of fever. When an alarm of this nature has taken possession of a community, how often do we witness the most improper cases committed to a fever ward? and when a young physician has been accustomed to grapple daily with an epidemic for a whole season, to mix with it in all its varieties, and to contemplate it in all its most terrible appearances, what is more probable than that his imagination becomes so excited, and his usual habits of observation and of thought so tainted by the scenes with which he is thus conversant, as totally to incapacitate him from forming either a cautious or an unbiassed opinion in matters which have no immediate relation to his present pursuits? Nephritis and small-pox have thus, at their commencement, been mistaken for biliary or typhous fever; and the remittent fever of children has more than once, from a similar cause, been treated as rubeola.

There is another way, however, in which epidemics, or rather the *causes* of epidemics, may affect the accuracy of our diagnosis. The experience of the physician has taught him to expect, that every particular season or year shall have its predominant disease, and the inquiries of more minute observers have proven, that, in every season, the minor or common diseases partake, more or less, of the character of that which happens to be predominant. Thus, if typhus be the ruling or epidemic disease, all the pyrexiæ of that year will assume, in a greater or less degree, the peculiarities of the typhoid type, while, on the other hand, if synocha has the ascendancy, the inflammatory character of the phlegmasiæ will be heightened, and the symptomatic fever of the other orders, also correspondent in its nature to that of the epidemic.

It cannot be correct, however, to say, that, because these changes in the feature of diseases generally observe that regularity of appearance which I have mentioned, they must, therefore, also stand to one another in the relation of causes and effects. It is surely more agreeable to fact, to consider them as *all* dependant on the operation of some more general cause, having the power at once to produce the epidemic, and also to give a peculiar character to the common diseases. Thus we see pulmonic complaints invariably to prevail in moist irregular winters, forming, in some situations, as on the sea-coast, more than a half of

the amount of cases among the infirm and the young, and insinuating themselves, to the great perplexity of the physician, as leading symptoms, into nearly two-thirds of the remainder.

Whatever may be the cause of epidemics, however, it is certain, that either an overstrained, or an imperfect degree of attention to their phenomena, is equally apt to confuse the diagnosis of the physician. In the one case, he carries his fears to an immoderate extent, and endangers his patient and his reputation by his practice and decision; while, in the other, his limited notions are as continually misleading him at the same hazard. I would, therefore, have every physician, particularly every *young* physician, before he pronounces on the nature of a case occurring during the prevalence of an epidemic, first to examine himself carefully whether he may not be about to decide, either rashly, from the impulse merely of his feelings, or inaccurately from not possessing a sufficient knowledge of his subject. From a neglect of this precaution, instead of diminishing, he may very probably increase the misery which surrounds him, and, by attending to it, he will, at all events, save himself a great deal of perplexity, and some self-recrimination.

Peculiarity of constitution in the sick, such as a disposition to hysteria, or to hypochondriasis, is another cause of the frequent mistakes which we fall into in forming a diagnosis.

A lady, affected with pain of side, has thus been sometimes treated with calomel and nitric acid; and a young man, with a quick pulse and a sense of confinement in the chest, occasioned merely by nervous excitement, has often been considered as consumptive. I have seen injections of olive oil pushed into the frontal sinus of a person affected with clavus hystericus, and bleeding *ad deliquium* practised on another who was supposed to labour under ileus. An hysteric girl, if bit by a dog, will exhibit many of the symptoms of hydrophobia; and another, who has been exposed to cold, will frequently take on the semblance of an epilepsy.

But these are not the only mistakes arising out of a disposition of this kind which the physician has to fear, for the exact converse of them all may also sometimes occur. Hysteria may not only assume the appearance of hepatitis, or of consumption, and thus cause us to destroy the constitutions of our patients by the use of improper medicines, but it may also amalgamate itself with these diseases when they are actually present, and thus prevent us from giving these medicines when they are really useful. The hysteric disease, when it affects the os frontis and its membrane, or, when it seizes on the stomach and

bowels, may not only be mistaken for the effects of insects in the frontal sinus, or considered as an instance of genuine ileus, but these affections may also sometimes be mistaken for it.

Instances of this kind might easily be accumulated; but surely those I have already given must sufficiently shew how likely our diagnosis of disease is to be perplexed by peculiarities of habit, and of how much importance it is to the physician to possess at all times a complete acquaintance with these in his patient. Without this knowledge, he will continually be at a loss to account for many of the appearances which so often present themselves to him, and must always, besides, be in danger of doing either too much or too little, when called upon to prescribe. It is thus that we see the female practice, in particular, of some physicians, so often at variance with the opinions of their humbler coadjutors; and, on the other hand, the most correct notions of others of the profession formed almost entirely on the suggestions of the patient or attendant. Hysteria, in all its varieties, is so much a disease of the imagination,—its history is so eminently one of bare conceptions,—and it occupies withal so considerable a part of the attention of every female, that, if it be proper, in any one case, to lay a great degree of stress on what is said to us by the friends or attendants of the sick, it becomes doubly incumbent on us when this disease is suspected to be in question.

The next cause which I shall take notice of as having a tendency to impress us with wrong notions of disease, arises out of the circumstance which I have just mentioned.

We will sometimes meet with a patient, who, from a habit of dabbling in medicine, or from a wish to impress us with a strong sense of the importance of his complaints, is wonderfully expert at perplexing his physician, by unmeaning or contradictory statements; and occasionally again we may encounter with another who is quite as successful, merely from the closeness or from the stupidity of his disposition. A young woman, while nursing a first child, or a mother who has often been deprived at an early period of her children, will be in continual apprehension of infantile diseases, and unless the medical attendant be either very cautious, or very well acquainted with the real appearance which these are wont to assume, he will also be not unfrequently carried away by their fears.

It is thus of importance not only to consider well what is said to us by our patients or their friends, but also to examine carefully whether what they say may not be dictated by prejudice or misconception. From not attending to this, the most

simple ailments may be often mistaken for important diseases, and the most active practice employed when little should be done.

I shall conclude this paper with a few remarks on one other cause, which, in more than a single instance, I have known to have had similar effects with those which I have already mentioned. I allude here to the vice which many of our profession fall into, of becoming engrossed in general pursuits, to the neglect of their medical studies. A young man of a warm spirited disposition will attend lectures, and read medical authors, while at college, in the most unremitting manner. At the expiration of two or three years, he conceives himself to possess a firm and an extensive grasp of every secret in medicine,—and forthwith he commences practice. New scenes are now opened to him, and new objects excite the energies of his mind. His medical studies are discontinued, and his only ambition now is to be a man of the world. Another person who has originally, perhaps, become a physician from necessity, or from chance, will indulge in the pleasures of the imagination; will be an enthusiast in every thing except his profession; and, skipping continually from one fanciful pursuit to another, will have little inclination for the severity of study, and constant observation, which medicine requires. One again who thinks nothing to be worthy of attention which is not capable of mathematical demonstration, will probably be as much disgusted at the uncertainty of medicine as the disciple of the Muses is appalled by its severity. When a person of this description happens then to be a physician, it will not be surprising if he should prefer the study of mathematics to that of medicine, and when either this or any other bias of the same kind acquires an undue ascendancy in our minds, it must be obvious how unfitted we will be to perform our duties in a proper manner.

In reflecting on the causes of a false diagnosis which I have enumerated in this paper, it will, I believe, be found, that, for the most part, they have little other origin than an imperfect or ill-directed education; and if it be true, that the practice of medicine is generally unsuccessful in the hands of such as study it improperly, what is to be expected from it when pursued by men who, although they make it their profession, do not study it at all? It is in vain that a physician possesses genius, or is a man of science. These qualities are extremely graceful in him, and could not well be spared, but they will avail him nothing at the bed-side of his patient, unless he possesses, at the same time, an ardour for observation, and a chastity of reasoning, which will interest him, on the one hand, in the most minute

occurrences of his practice, and preserve him, on the other, from bending these over much to particular views.

In attempting the solution of a case in medicine, we will be often deceived, and almost always perplexed in our conclusions; for, as we have little save analogy to guide us, and are ever in danger of being misled in the application even of this, it cannot be expected that medicine will have either the precision or the constancy of a regular science. But methinks the very disadvantages under which medicine labours, as a science, should operate on properly tempered minds, as so many additional inducements to cultivate an acquaintance with it. It is scarcely to be hoped that we will soon be able to arrange all the varieties of diseased action methodically, and according to universally acknowledged principles, but still I think that this has never been sufficiently tried, or long enough persevered in.

Irvine, 11th March 1819.

XI.

Case of a peculiar Eruptive Disease. By MARSHALL HALL, M. D. F. R. S. E. &c. of Nottingham.

THE eruptive disease about to be described, so remarkable by its *annular form*, *different hues*, *vesicular character*, and *general diffusion* over the surface, has not, I think, been distinctly noticed by practical writers; I have, therefore, thought the ensuing case not altogether devoid of novelty and interest, and perhaps not unworthy of a place in the Medical and Surgical Journal. The little patient was visited also by Dr Ballingall, author of an interesting work on the diseases of India.

PETER ENTWISTLE, aged four, first became languid and sick on the 23d of March 1818. On the 26th some red spots were observed on the face. On the 27th and 28th, spots appeared on the limbs and trunk of the body. On the 29th, other spots still continued to appear, whilst the former ones enlarged, and underwent the changes about to be particularized.

On the *first* day of eruption, the spots were red, flat, not hard, from two to three lines in diameter, and nearly circular.

On the *second* day of eruption, the spots enlarged, and either appeared elevated in their centre, or consisted of a deep red central spot, about a line and half in diameter, with a surrounding paler and rather elevated ring.

On the *third* day, the spots were of still greater diameter; the centre was more elevated, vesicular, contained a little whitish fluid, and was surrounded by a ring of deep redness, about a line and half in breadth; this ring was encircled by a second, rather elevated, and rather paler than the former, and of still greater breadth.

On the *fourth* day, the central vesicle was still more prominent, and contained a little opaque fluid; the ring surrounding it was very distinct, and the second ring still more elevated than before, and slightly vesicular; in one spot, under the chin, there was a large globate vesicle.

On the *fifth* day, the appearances of the eruption were very striking:—There was a central vesicular elevation, containing a whitish fluid, surrounded by a deep red ring, not vesicular; this ring was surrounded by another, lighter coloured, elevated, and manifestly vesicular; and this, lastly, by a third ring of redness, which vanished gradually into the natural colour of the skin. In some patches, the centre was of a deep-red, and the first ring vesicular. Some of these eruptions coalesced, giving an appearance of a still greater repetition of rings. Some of the central, and some of the annular vesicles, became still more elevated and distended, and manifested an appearance of larger globate vesicles, containing a transparent fluid. Some of the eruptions were nearly an inch in diameter; some of those which had coalesced were two inches in diameter; and others remained nearly of the diameter of the spots on their first appearance,—from two to three lines,—and were merely vesicular. All the spots co-existed, in their different stages, on this day. The eruption on the face continued of small diameter, and was vesicular, but little annulated; that on the arms was more annulated, and less vesicular; that on the thighs and legs was in patches of largest diameter, most numerous, most vesicular, and most annulated, and, indeed, possessed most of the character described above. There were few spots on the trunk of the body. There was little fever. The bowels were kept open by medicine.

On the *sixth* day, some of the spots on the face were still more in the form of globate vesicles, were from one to three lines in diameter, and presented little surrounding redness. Some spots on the scalp appeared as small opaque vesicles, without inflammation. Some of the spots on the arm had a central, opaque, elevated vesicle; others were circular patches of red, presenting a slightly vesicular character, and they were in general about four lines in diameter. On the thighs, knees, and legs, the rings before described had coalesced more or

less; in some parts they appeared as large, circular, or irregular, globate vesicles; in other parts there was a general appearance of vesicles, not distended, and in clusters; and in others, lastly, there were small, central, opaque, and elevated vesicles only. The little boy was better in general health; he sat up, appeared cheerful, and had some appetite.

On the *seventh* day, the appearance of distinct rings was less observed; the intervening rings, which were of the deeper red, having assumed irregularly the same vesicular character and appearance as those of the lighter hue. There was a little dryness of some of the vesicles on the face. The general health was still more improved.

On the *eighth* day, the eruption was irregularly formed into vesicles and bullæ. In some patches the centre seemed fixed, and the vesicle arose into a ring round it. In others, the whole formed one distended bulla. Some scabs which had formed on the face were removed. The eruption on the arms was declining. That on the legs remained as described.

On the *ninth* and *tenth* days, the appearance of distinct rings diminished still farther, the intervening redder rings assuming the colour and circular appearance of the paler ones, or the whole assuming, wholly or partially, the form of a bulla.

After this period, the vesicles burst, and irregular scabs formed. Some spots declined without becoming vesicular, or forming bullæ.

The *history* of this case coincides with that of herpes, of which genus this form of cutaneous affection may perhaps be considered as a variety; its diffusion connects it with the herpes phlyctenodes, and its form with herpes iris; in some parts it *resembled* the varicella globata.

Nottingham, August 20, 1819.

XII.

Case of a Dropsical Affection, successfully Treated by Bloodletting.

By George Dempster, Esq. Hospital Assistant to the Forces. Communicated by Dr Abercrombie.

Mr W. Stephenson, ætatis 45, 22d April 1819, master carpenter, complains of pain and difficulty of breathing, upon making the least exertion in walking, especially when at-

tempting to go up stairs; his countenance is bloated; lower extremities œdematous; pulse frequent, very irregular, and tremulous, often 130, intermitting three or four strokes within the minute; palpitation of the heart is at times so very great as to be both seen and heard; the carotids likewise pulsate strongly; sleep much disturbed by incubus and frightful dreams, accompanied with frequent startings. He cannot lie in the horizontal posture, or upon either side, from a sense of suffocation; he says he feels at times as if water was in his chest; is obliged to have his body elevated by means of pillows while in bed. Skin dry and harsh to the touch; tongue foul and parched; complains much of thirst. His urine is scanty and high-coloured, not coagulable; bowels torpid.

He attributes his complaint to having got wet, and to his being afterwards exposed to a current of cold air, immediately after which he felt oppression of the chest.

It was three weeks from the commencement of his attack when I was called in.

He was put under a course of the usual diuretics and purgatives, with the blue pill night and morning, from which, after a few days continuance, I found my patient derived no benefit whatever.

These medicines having failed, I determined upon trying the effects of blood-letting. Accordingly, on the morning of the 26th, ℥xxx. of blood were drawn from the arm with marked relief, for his breathing became more free, and his pulse, which was 130, and very tremulous, was reduced to 90, and soon became steady. In the afternoon of the same day, his breathing having become more oppressed, ℥xx. more were abstracted, after which he fell into a sound sleep, which lasted three hours.

H. 8vo. P. M.—His breathing was free and easy, and he could lie on either side, or in the horizontal posture; urine had increased; pulse 90, full, and steady. To continue the diuretics and purgatives.

27th.—Had a good night's rest; breathing still easy; urine more copious and light-coloured, not coagulable; pulse 90, and firm; swelling somewhat less. The medicines to be continued; let a bandage be applied to the legs.

28th.—Sleep during the night disturbed; complains of pain in the back, with tumour in the upper extremities, more particularly in the hands; breathing oppressed; pulse 100, small, and soft; urine copious; frequent watery stools; swellings diminishing. Let a blister be applied from the nape of the neck to the lumbar vertebræ; and continue the other medicines, with a solution of the crystals of tartar for common drink.

29th.—The pain and oppression of breathing removed by the blister; the tremulous affection less violent; urine increased to lbs. vij. during 24 hours, not coagulable. Continue the medicines as before.

May 1st.—Since last report, his breathing has continued easy, and the tremulous affection entirely removed; recovering rapidly.

6th.—No complaint, except weakness.

Kingston, Jamaica, 9th May 1819.

XIII.

Cases of Aneurism. By Robert Liston, Member of the Royal Colleges of Surgeons of London and Edinburgh, Lecturer on Anatomy and Surgery, &c. &c. *(With an Engraving.)*

The following cases, excepting the last, have occurred to me within the last five or six weeks, together with a few other interesting ones, which I may afterwards present to the public.

I am induced to offer the first, both on account of the singularity of the circumstances attending it, as well as of the operation which was successfully performed for its cure. The other four cases, besides affording additional proof of the superior efficacy of the single ligature over all other plans in the securing of arteries, contain also some other points worthy of attention.

Case I.

Ossified Aneurismal Tumour of the Subscapular Artery.

Robert M'Nair, æt. 16, was admitted into the Royal Infirmary of Edinburgh on the 7th of November 1819, on account of a tumour over the left scapula. His case was the subject of a full consultation of the surgeons of that Institution. It being deemed by them imprudent, and not advisable, to attempt any operation, he was, after the application of leeches, dismissed as incurable at the end of eight days.

On the 15th, the young man was sent to me by my friend, Mr Walker, surgeon, to whom he had applied. On examination, I found the tumour very large, rendering him, as it were, hunch-backed; hard, and inelastic; firmly fixed to the left scapula, and extending from the spine over all its lower surface. It stretched into the axilla, likewise, to within half an inch of

Mr. Liston's Case of Ossified Aneurismal Sac &c

Fig. I.

Fig. II.

Published by A. Constable & Co. Edinburgh 1820.

he nerves and vessels, and a large branch (the subscapular) ould be felt creeping along its under surface. The arm hung y his side, quite useless, and, from the wasting of the muscles, ot more than half the size of the other. The uneasiness proluced by the tumour was trifling, according to his account, vhen compared with the shooting and excruciating pains of the xtremity. I was led to imagine that some bony spiculæ exended into the substance of the swelling, from feeling, in my ttempts to move it independently of the scapula, a good deal f crepitation, as if of pieces giving way.

The disease was first perceived three months ago, immeliately below the spine of the bone, about the size of a filbert, ut of a flatter form, and had, of late, increased rapidly. About en days before his admission into the Infirmary, it had been unctured by a surgeon in Kinross, when nothing but blood scaped.

It was evident from the rapid growth, and other circumtances attending the case, that the boy would soon be destroyed, unless an operation were attempted. On considering the ase with my friend Dr Sanders, (whose able advice and assistnce I have frequently experienced,) and examining it in all ts relations, we were convinced—1*st*, By the freedom of respiation, that the ribs and intercostal muscles, of course the vital rgans in the thorax, were sound; 2*dly*, That, though the tumour was firmly fixed to the scapula, yet that the bone was equally moveable as the one on the opposite side: and, as the vessels and nerves in the axilla were wholly unconnected with the disease, I immediately made up my mind to remove it; and, if it could not be avoided, to sacrifice the greater part of the scapula also.

Next day, accordingly, I proceeded to the operation, in a small badly-lighted room. I began by making an incision of a foot long at least, from the axilla to the lower and posterior part of the tumour. The latissimus dorsi was then cut across at about two inches from its insertion, so as to expose the inner edge of the swelling, with a view to tie the subscapular in the first instance. In this I was foiled, owing to its depth, as it passed under the lower edge of the tumour, out of the reach of my fingers. I then proceeded, as is my custom, in the extirpation of tumours, to dissect, where I expected vessels to enter from the supra-scapular. With this view, in detaching it from the spine of the scapula, I felt my finger and knife dip into the body of the tumour. This was attended with a profuse gush of coagula and florid blood. I immediately thrust my sponge into the cavity, so as nearly to command the hæmorrhagy. One of

my assistants, at the same time, tried to compress the subclavian, but to no purpose, as the shoulder and arm were much raised to facilitate the dissection in the axilla, which circumstance increased the difficulty of commanding the vessel on the left side. The patient, who had borne the operation well, exhausted by this, and the loss of blood from the very large vessels, supplying the tumour, divided in the former incisions, after some efforts to vomit, now dropped his head off the pillow, pale, cold, and almost lifeless. I then only became aware of the nature of the case, and saw that nothing but a bold stroke of the knife could save the boy from immediate death. Pulling out the sponge, therefore, with one rapid incision I completely separated the upper edge of the tumour, so as to expose its cavity; and, directed by the warm gush of blood, immediately secured with my finger a large vessel at the upper corner, which, with open mouth, was pouring its contents into the sac. With my right hand, I then cleared away the coagula, and dissecting under my finger, separated the great subscapular artery, so that one of my assistants could pass an aneurism needle under it at its origin from the axillary, and about an inch from the sac. After tying this, and two other large vessels, (fully the size of the ulnar,) which supplied the sac, I dissected off the tumour from the ribs without further hæmorrhagy, cutting with my knife the carious scapula and under part of the sac. After removing the tumour, I found it necessary to saw off the ragged and spongy part of the scapula, so as to leave only about a fourth part of that bone, containing the glenoid cavity, processes, and half of the spine. In this way, ten muscles * were either wholly or partially divided. The edges of the wound were then brought together, and the patient cautiously lifted into bed. At this time he was pale, almost insensible, and without any perceptible pulsation in the greater arteries through the integuments, though the ends of the vessels in the wound beat very forcibly. By the exhibition of stimuli, externally and internally, his pulse could by-and by be felt, though, on account of its quickness, it could not be counted. In the evening, however, it was at 90, and soft.

26th.—The wound is now completely filled up by healthy granulations, and contracting rapidly; discharge by no means profuse, nor has it been so; appetite good; pulse 80 and soft;

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* Latissimus Dorsi—Trapezius—Deltoides—Rhomboideus Major—Infraspinatus—Supraspinatus—Subscapularis—Teres Major—Teres Minor—Serratus Magnus.

all the functions natural. On the 23d, (only eight days from the operation,) he was so well, as to be out of bed in the forenoon for a considerable time. In the course of eight or ten days, he has every prospect of being enabled to return home quite well, and with considerable power in his arm, of which the pain has entirely ceased. The only apparent cause for alarm now, is the chance of hæmorrhage at the separation of the ligature, as it was impossible to include the vessel at a distance from the disease. The artery, however, was apparently sound. Whatever may be the result, certainly no blame can attach, seeing that the case has so far proved completely successful.

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but have been cut off close by their attachment. His health is quite re-established, and he returns home to-day.

Case II.

Popliteal Aneurism.

Sept. 30, 1819.—I was requested to see the subject of this case, Peter Barclay, a seaman, æt. 35, on account of an aneurism of the right ham. The tumour was not large, and had been noticed as the cause of lameness for three weeks, and was attributed to a sprain in raising a heavy cask in a ship's hold.

Oct. 1st.—I included the artery to day in a single ligature of small worked dentists' silk, leaving out the ends. After opening the sheath slightly with the point of my knife, considerable resistance was experienced in passing the aneurism needle behind the vessel. On this being overcome the wound was instantly filled with arterial blood. It was cleaned out repeatedly with the sponge and again filled. I then drew the ligature tight, when the bleeding totally ceased. It is probable that some branch had been divided as it comes off from the trunk by the point of the needle, which is as sharp as it can be made without a cutting edge, as my object has always been to detach the vessel no more than sufficient for the passage of the ligature. I was not so much concerned about the hæmorrhage as I should have been, had venous blood appeared, as I knew that I could easily remedy it by detaching the artery more, and applying two ligatures. I was present at one case, when, I believe, the femoral vein or a branch of it was wounded, and in which the sides of the opening were puckered up and tied, but very soon after the young man was carried off by bleeding. These cases should serve as cautions in the use of such a needle, which should be moved a little laterally if any resistance is felt. The incision was brought together by three stitches. Notwithstanding the delay occasioned by the hæmorrhagy, the whole operation, &c. did not occupy more than three minutes and a half. The ligature separated on the 22d day, though on the removal of it the wound could scarcely admit a pin's head. Eight days after the separation of the ligature, he had stretched the limb in getting out of bed, and considerable swelling about the wound supervened. Matter formed, which with a flow of blood came away suddenly in the night. From the idea that the artery had given way, he twisted a handkerchief round the limb with the handle of a spoon in lieu of tourniquet. I was the more alarmed at the idea of hæmorrhage in this stage of the case, as I had in one month witnessed the loss of two patients after the separation of the ligature. The first was a case of popliteal

aneurism, in which the artery had been secured by two ligatures and the vessel cut between. Ten days after their separation, when the wound was healed so as scarcely to admit a crow quill, bleeding came on in the middle of the night, and carried off the patient.

The other was a case in which the iliac was secured for inguinal aneurism by a single ligature. Eight days after its separation hæmorrhage began, and returned at intervals for four or five days till he died. No attempt was made to secure the bleeding vessel. In neither was examination of the parts allowed.

In the case in question, however, the wound healed up without further trouble, and the patient is moving about.

Case III.

Popliteal Aneurism.

Oct. 5, 1819.—I was called to the country to operate on the limb of Mr T. æt. 30. Twelve months before, he had noticed a pulsating tumour in the left ham, producing lameness, which he attributed to a strain in lifting a heavy weight up a flight of steps. A very intelligent surgeon, Mr Young of Dalkeith, to whom he applied, perfectly aware of the nature of the case, suggested the propriety of an operation. This advice however he neglected, and put himself under the care of a kind of veterinary surgeon, who applied turpentine, poultices, &c. The swelling now attained a very large size, and lost all the characteristics of aneurism. A lancet was (on this date) pushed into the most prominent part, when, after the escape of a few coagula, florid blood made its appearance. The wound was secured by a firm compress bandage, and a tourniquet tightly applied to the limb by his former adviser, who called upon me. The tumour and knee measured about two feet in circumference, the limb was immensely swelled, and much pained; the patient thin and emaciated, but prepared to undergo any operation. Considering that the limb would be in a much more favourable state for the ligature of the vessel, owing to the already existing obstruction to the circulation, and consequent enlargement of the anastomozing vessels, than for amputation, which was proposed, (and in fact I have seen this latter operation performed on account of an aneurismal tumour in the ham of a much smaller size,) and also that the securing of the vessel, in the first instance, did not afterwards preclude, if necessary, the removal of the limb, I decided on making the experiment, and accordingly proceeded to include the femoral artery in a ligature, as in the former case. The patient suffered but little, as the lifting of him to the light, removal of the tourniquet, operation, dressing, and

replacing him in bed, were completed within eight minutes. The ligature separated on the 17th day. In three weeks both the wound in the tumour and that on the thigh were cicatrized. The tumour from the time of the operation diminished rapidly, is now almost gone, and the patient begins again to enjoy the use of his limb.

Case IV.

Inguinal Aneurism.

Nov. 5, 1819.—Mr A. æt. 35, about five weeks ago, and after dancing, felt pain in the left groin, and rheumatic affection of the limb. Three weeks since, he noticed a swelling close to Poupart's ligament, which has gradually increased, and has now attained the size of a large lemon externally. It has been treated by an apothecary, who has applied blisters, &c. to the limb and tumour.

Next day, assisted by my friend, Dr Kellie, who had seen the case two days before, I secured with a single ligature the external iliac, as high as possible, by an incision almost parallel to the linea semilunaris. The different layers of muscles were divided by the knife, and with the hand unsupported, until the peritonæum was exposed by lifting a few fibres of the transversalis with the forceps. The wound was then dilated with a probe pointed bistoury, the peritonæum held aside, and the vessel tied. I am thus particular in mentioning the steps of the operation, as I know that the peritonæum has been wounded, and the viscera allowed to escape on the living body; indeed, I have seen such mistakes committed by those who ought to know better, in their attempts on the dead.

The patient bore the operation well; the ligature came away on the 16th day; and the wound is now (Nov. 25th) almost healed. He has complained much less of pain, or coldness of the limb, than the two former patients. By the operation, he was immediately relieved from excruciating pain, stretching down the fore part of the thigh, referable to the pressure on the anterior crural nerve. The tumour has already almost completely disappeared.

Case V.

Curious Affection of the Head and Face, in which Ligature of the Left Carotid was had recourse to, but without success.

The following case I offer without any comment. The subject of it is still alive, and unrelieved; of course, I shall, with pleasure, attend to any suggestion regarding her. On June 20, 1817, I was requested by my particular friend, Mr Nasmyth, to see J. Cairns, æt. 24, in consultation with Drs Barclay,

Duncan junior, and himself. She had been afflicted with constant beating pain in the left cheek and upper jaw, along the alveolar processes, stretching to the throat, and, indeed, involving the whole head. The pain was without respite, and so violent, that she constantly supported her head, unable to use the slightest exertion, and sleeping only when completely exhausted. Of course, all kinds of remedies had been tried, external and internal. The antrum had been perforated eighteen months before, and that very extensively, by Mr N.; but neither matter nor tumour could be detected. At one period, this gentleman (thoroughly acquainted with the disorders of the mouth, &c.) thought that he had discovered the cause of all the mischief in a canine tooth, growing across the palate; but, after the extraction of this, no relief whatever was obtained. In my examination of the parts, finding no cause of irritation of any kind, I, partly for the sake of experiment, put my thumb on the left carotid. She immediately exclaimed, that she was quite relieved; and that, if the pressure were continued, she would be enabled to go about her usual occupation. The same effect was produced in the repeated trials of the gentlemen present. As every plan had failed, it was deemed, in consultation, quite justifiable to produce a permanent obstruction to the flow of blood in the artery. Accordingly, on the 22d, I passed a small single ligature under the vessel, immediately below the omo-hyoideus. Neither the vein nor the nerves produced any delay or difficulty in the operation, which was done in a very few minutes. The latter organs were separated, and the sheath opened with the point of the knife. I may here mention, that for an instant I gave up the dissection, after dividing the superficial parts, and tried, as is recommended by some surgeons, to separate the sheath, &c. with the handle of the knife. This plan, however, in any circumstances, I should never again be prevailed upon to attempt. Neither would I be inclined to use a directory for dividing the layers upon. In this, and every case since, I have uniformly made a fair and clean dissection of the parts, in any delicate step lifting the coverings with the common dissecting forceps. This instrument, from being more accustomed to its use, has always served me instead of a tenaculum, and in many cases of a directory also.

The wound was healed on the removal of the dressing, excepting where the ligature (which was separated on the 22d day) was left out. For some time, the pains were much relieved; but since then, I understand, they have returned with considerable violence. After the operation, she complained much of pain in

the back of the head and neck, probably from the dilatation of the vertebral arteries.

Edinburgh, 56, *George Street*,
1819.

Explanation of the Plate.

Fig. I.

Is the representation of a sound scapula, much reduced, the dotted line on which, *a. b.*, marks out where the bone was sawn across after the removal of the tumour.

Fig. II.

Exhibits the inner surface of the sac, which pointed to the ribs. The figure is about a third of the original size.

a. a. a. The bony or cartilaginous sac, the fibres of which are seen pointing towards its centre.

b. The cavity, which was filled with fluid blood. The bony projections or spiculæ are seen, as it were, crystallized at this part.

c. Coagulum, evidently organized, embracing towards the letter

d. on the left, a portion of thin half-absorbed scapula.

d. On the right hand, is the sawn edge of the thick part of the bone. This letter, together with

e. f. marks out a portion of the scapula and sac, which has been placed in its situation to complete the appearance of the tumour, though it was sawn off separately, after the removal of the latter.

A number of pretty large pieces betwixt *e.* and *g.* were also cut off with the bone forceps.

g. Marks out the place where the subscapular artery entered the tumour.

h. The strong membrane covering the sac, with the fibres of the muscles attached to its outer surface.

The portion of cyst betwixt *h.* and *a.* was that which occupied the situation at the root of the acromion; and, when it was first opened,

g. on Fig. II. occupied nearly the situation of *a.* on Fig. I.

PART II.

CRITICAL ANALYSIS.

I.

A Short Account of some of the Principal Hospitals of France, Italy, Switzerland, and the Netherlands, with Remarks upon the Climate and Diseases of those Countries. By H. W. Carter, M. D. F. R. S. Ed. One of Dr Radcliffe's Travelling Fellows from the University of Oxford. 8vo. London, 1819. pp. 255. Underwood.

Some months since, when a work on the principal hospitals of Europe, by a travelling Fellow of Oxford, was announced among the forthcoming publications of the day, we anticipated great pleasure and instruction from the perusal. Perhaps this anticipation may have led us to form a less favourable opinion of the execution of Dr Carter's volume than to others it may appear to deserve. We readily confess that we have been disappointed,—and, in order that we may put our readers in possession of the nature and extent of our disappointment, we shall, in the course of this article, state what we conceive should be the plan of a book with a title such as that before us;—we shall then give some specimens of the present performance. We do not expect the scrupulous minuteness of Tenon, which no person can pretend to without local advantages entirely out of the reach of a casual visitor; nor do we look for those architectural details of Sylvester, which a professed engineer can alone give;—but we assuredly expect information more ample than we can easily procure from gazetteers and guides; excellent and useful performances in their own way, but, we humbly apprehend, more proper for perusal in an hotel or diligence than at second-hand in a medical book. A great proportion of Dr Carter's information savours strongly of these sources, and, indeed, he con-

fesses, that his sketch of the climate and diseases of Lille is chiefly taken from the "Guide des Etrangers,"—"one of the best books of the kind," says the Doctor, "I have ever met with." The justice of this eulogium we shall not dispute; for we are convinced, that, from the specimens of these handy little vade mecums to be found in most large towns, together with some help from the published regulations of their hospitals, we could, with great facility, compose a good shewy octavo, which would not suffer in a comparison with Dr Carter's, without ever stirring from our own firesides.

Dr Carter had before him, if not perfect models, at least very respectable examples of medical travels in the works of Hunczovski, Loder, André, Flajani, and Dr Joseph Frank; in the journey to London of Philibert Roux, or the interesting sketches of Mr Cross. In their publications on the hospitals of Wilna, Munich, and Wurtzburg, we have had from Frank, Haeberl, and Thomann, as well as many natives of the countries through which Dr Carter travelled, valuable examples of succinct and detailed histories of individual establishments. Some of these publications are in every body's hands, others cannot be supposed to be unknown to a fellow of an English college, although they are the productions of foreigners. In truth, it is principally in the English language, that there is any deficiency of works upon the hospitals of other countries; and a publication which should completely fulfil the promises of our author's title-page, is yet a desideratum in British medical literature. This is the more to be lamented, because little is required in the composition, except ordinary attention; a faithful detail of what the writer may have seen himself; and some industry and discrimination in collecting or abridging from legitimate sources, those facts and statements for which he must trust to others. But we shall now specify some of the heads of information which we conceive such a work should embrace.

We should be grateful to that author who, after giving us a brief memoir on the medical topography of a place, should inform us of the site, size, and plan of its hospital, the number and accommodation of the wards, with the methods of ventilating, warming, and cleansing them; the plans for separating and classifying the patients, their numbers, and the measures pursued for obviating or checking contagious diseases among them; the materials and arrangement of their beds, bedding, and other articles of furniture; the means of collecting and conveying the sick to the hospital, with a statement of the obstacles or facilities of access to the building itself, as well as to its various apartments. We should expect an account of the

plan, extent, and arrangement of the kitchens, baths, and wash-houses, and of their supply of cold and hot water, and steam, together with a detail of all contrivances for the abridgment of labour; the diminution of the consumption of fuel; and the increase of the nutritive quality of the food, or its fair, regular, and comfortable distribution. Knowing, as we do, how much the individual comforts of the sick, and the general good order of an hospital, depend on the water-closets or "latrines," we should attach great importance to the description of their site, size, and actual state, the extent of their supply of water, air, and light, and the measures adopted for removing the soil, or preventing the diffusion of unpleasant and unhealthy effluvia. To all this information on the immediate accommodations for the sick, we should wish to be added an account of the storehouses and offices of every description; the airing ground for the convalescents; the places of reception for the dead, with the modes of disposing of the bodies, &c. &c. We should expect also a statement of the rank, number, salaries, and duties of the various officers of the establishment, whether medical, surgical, or purveying, with an enumeration of the servants of different classes, their wages, the proportion which they bear to the sick, and the respective duties which they perform. In short, we should wish for information on every point subservient or preparatory to the grand objects of administering food, medicine, and surgical assistance.

We should then be prepared for a view of the mode of carrying on the medical, surgical, pharmaceutical, and purveying duties, which would naturally lead us to the history of new or peculiar practices or operations; accounts of new remedies; details of the diet, ordinary and extraordinary, administration of wine, and other cordials, &c. The sources of revenue from which these wants are supplied should be specially enumerated, and, from all these premises, we should have no difficulty in entering into a view of the expences of the establishment. The nature of the records and annals kept at the hospital should be stated to us, and, from these, interesting information on comparative mortality, prevalence of disease, and peculiar epidemics, originating either from within or without, might be afforded; as well as satisfactory notices on every other point medical, statistical, or financial. If the hospital has a school or museum attached to it, or in its neighbourhood, we should expect some information upon these heads, which might be rendered more valuable by biographical sketches of such celebrated men, as either flourish at the time, or had formerly contributed to the celebrity of

the institution. Finally, we conceive it to be the duty of every writer who gives an account of the state of medicine, or the medical establishments of any country, to consult every accessible source of information; and he will greatly enhance the value of his labours, if, to his account of each town, hospital, or school, he appends a catalogue of the books in which information may be found, and this whether he may have read them or not. Literary honesty will certainly require that he should candidly acknowledge where he may have largely borrowed; but no man need be ashamed of confessing, that he has heard and read of more books than are within his reach, and which he consequently never has, or perhaps never can peruse.

This is a rough and imperfect outline of what we should expect in a book professedly written on hospitals, but which, of course, the peculiar views, opportunities, or abilities of the author, would lead him to fill up or curtail, according to circumstances. As a basis, however, we conceive that this plan, under some modification or other, is indispensable towards affording really useful information on the subject. That it is far from impracticable, or even peculiarly difficult in the execution, we know; since, under the excellent discipline now established in our military hospitals, every surgeon of a regiment throughout the empire is called upon for a document somewhat of this nature, on each change of quarters; documents which are lodged among the records of the army medical department, and may hereafter furnish invaluable materials to the profession at large.

We should now inquire how far Dr Carter has acted upon this or any other plan, which might have served to embody for us useful information on the state of the hospitals in the various parts of Europe in which he has travelled. After minutely examining his work, we confess our inability to discover the precise plan upon which he has composed it:—and, indeed, we much doubt whether he has adopted any; for his notices are singularly vague, irregular, and disjointed:—they are apparently copied at random from his pocket-book, or hastily extracted from his travelling directory, with very little pains in the selection. So long, however, as we are offered information, we are willing to accept it, from whatever source it may be derived, but our facility, in this respect, shall not induce us to surrender our privilege of examining its value.

In the first place, we have to complain of the extreme shortness of Dr Carter's articles. In his table of contents, we are promised information on the hospitals of Paris, Lyons, Geneva, Lausanne, Berne, Nice, Turin, Milan, Padua, Florence, Pisa, Leghorn,

Rome, Naples, Sicily, Lisbon, Lille, Brussels, Antwerp, Ghent, Amsterdam, and Leyden. We had some forebodings, that a book of the size of Dr Carter's (pp. 255) could not contain all the interesting matter that the bare mention of some of these places suggested; but, on further examination, we became satisfied, that, in his mode of dispatching business, he might have added to his catalogue all the hospital establishments in the German and Russian empires, together with those of the minor states, without exceeding the bounds of a moderate octavo. To some of the places enumerated, and those too among the most important, as Milan, Pisa, and Padua, he allows a page, a page and a half, or three pages; some he dismisses in fourteen lines—Lausanne, for example;—there are others, on the hospitals of which he scarcely expends as many words;—and others, again, as those of Naples, where he candidly confesses to us that he has nothing whatever to say.

Paris, one would suppose, might have furnished materials for something interesting; and, as every thing connected with its medical establishments is open to visitors, or has been described over and over again, if the Doctor had nothing original, he might surely have gleaned something from the works or the conversation of others. In Paris, or its immediate vicinity, there are 18 or 19 hospitals; beside these, there is L'Ecole de Santé, founded for the education of hospital surgeons, especially for the army and navy; L'Ecole de Medecine, the only establishment in Paris for granting degrees in medicine and surgery; and L'Ecole de Pharmacie, for the education of apothecaries: there is also the Jardin des Plantes, the College de France, and many other literary institutions, collections, and museums, connected with the study of medicine, an account of which would profitably and amply fill two volumes;—Dr Carter, with characteristic brevity, finishes all he has to say of the French metropolis in a little more than two sheets. He mentions only L'Hotel Dieu, La Charite, La Salpetriere, and some of the Maisons de Santé kept by private practitioners for lunatics and other patients who are in circumstances to pay for their accommodation; and of the principal school of physic, "L'Ecole de Medecine," his communications are nearly as laconic, and not more instructive, than we should expect from a good modern gazetteer. To those who have read Tenon on the Hospitals of Paris, as they stood before the Revolution, or the "Rapports faits au conseil general des Hospices civiles de Paris," about three years ago, or the Sketches of Mr Cross, published in our own country, the scantiness of information to be derived from the present author will appear not only provoking, but altogether unaccountable.

Prepared as we were for meagre details by his account of Paris, we were severely disappointed when we turned to the chapter on Milan. Milan, which contains one of the largest and most splendid hospitals in Europe, and which boasts of several eminent practitioners, remarkable for their attainments and their industry, is hurried over in three scanty pages. Few physicians conversant in the literature of other countries are ignorant of the name of Locatelli, the warm patron of blood-letting in fever; or of Giannini, the respectable advocate for the employment of cold water in certain stages of the same disease; or of Sacco, the apostle of vaccination in Italy, and who had very nearly been its martyr also.* Three more interesting subjects can scarcely be suggested to the British physician, but Dr Carter never mentions, nor even hints at them. It struck us also as not a little singular, that while Dr C. was at Milan, only a drive of twenty miles from Pavia, he should not have given some account of that far famed seat of learning, where Volta, Scopoli, Spallanzani, Scarpa, and other celebrated men, have so ardently exerted themselves for the benefit of science in general, and of medicine and surgery in particular. He either did not visit that city, or found nothing interesting, for he has not even mentioned it. Neither does he name Bologna, through which he must have passed, if he travelled between Florence and Padua.

The account of Pisa is comprised in two pages; it would take up a greater space to give a bare enumeration of his omissions under that head, than he has bestowed upon the entire article.

On Padua,—"alas for Padua,"—he expends fifty lines. Now we shall not quarrel with Dr C. for not having described the botanic garden, the most remarkable in Italy; nor for having left unnoticed that school of anatomy,—interesting to every man who recollects, that it was there the illustrious Morgagni performed many of those dissections which will hand down his name to posterity, as one of the most indefatigable contributors to our profession; still less shall we accuse him for omitting any hint of the fine series of dissected mollusca of the Adriatic Sea, and other objects of natural history to be met with there,- because neither botany, anatomy, nor zoology, form any part of the subjects mentioned in his title-page. But when

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* He was nearly stoned to death by the mob in one of his excursions for the promotion of vaccination.

Dr Carter, in describing the hospital, employs merely the three words, "large and commodious," and when he does not give even one syllable on the climate or diseases,—we leave it to his own decision, whether we have not some right to complain of a breach of promise. There are two works, each nearly as large as Dr Carter's, written on the topography and regulation of this hospital, by Comparetti; and there is a series of clinical reports from the pens of Brera and Dall' Oste, embracing almost every thing worth knowing, both medical and financial. Had our author given us a good abridgment of either, or even if he had given the titles of the works in a note, we should have been in some degree satisfied; but he has not done this, and we are left to gather our information as we may. Fortunately for those interested in the subject, there is no want of materials. *

We turned from the venerable universities of Italy to that of Leyden, with our hopes greatly depressed, and, accordingly, we found, that somewhat more than the space allotted to Milan serves to convey to us all the information concerning that respected seat of learning, where, for so long a period, Boerhaave gave laws to physic. The state of the civil and military hospitals; the clinical lectures; the anatomical museum and theatre; the museum of natural history; and the noble botanic garden, rich in the plants of various countries, are all treated of within the compass of four pages. What chiefly attracted the Doctor's attention in the latter were "two trees planted by Boerhaave." This may possibly have been the case, but to botanists some intelligence of the palm raised from seed in the open air, by the celebrated Clusius, would have been much more interesting. If in existence, it must now be upwards of two hundred years old. This very tree, and the pot in which it grows, are figured by Boerhaave in the frontispiece to his index of the Leyden Garden, as has been remarked by Sir J. E. Smith, in his very interesting Tour on the Continent,—a work which we can with great confidence recommend to future medical and botanical travellers. †

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* We subjoin the titles of the above named works. Saggio della Scuola Clinica nello Spedale di Padova. Riscontro Clinico nel nuovo Spedale. Regolamenti Medico-Pratici di Andrea Comparetti, Padova, 1793 and 1799. Prospetto Clinico dell' anno scolastico, 1815-16, dal V. L. Brera, compilato dal Pietro Dall' Oste, Padova 1816. This work is continued. We have the reports down to 1817. There are also by Brera, the Prospetti Clinici di sei anni scolastici col Riassunto Sessenale, from 1810 to 1815 inclusive. Padova, 1816.

† A Sketch of a Tour on the Continent, by James Edward Smith, M. D. F.R.S. 3 vols. 8vo. Vid. Vol. I. p. 11. Some of his remarks on medical subjects

Next to the dwarfish brevity of his articles, we have to complain of the want of specific information on points of considerable interest. Thus, he states to us in general terms, that the wards of one hospital are commodious and well ventilated, and that the rules of another are good; but he never gives particulars, nor does he define what he understands by good accommodations or good regulations. Many persons imagine, provided a ward has abundance of windows, and these windows are kept open, that it is well ventilated. We, on the contrary, understand by good ventilation, that disposition of the windows which ensures a speedy exit to the heated and vitiated air, and a constant and uniform admission of the fresh and uncontaminated atmosphere, with the least possible exposure of the sick to currents. This is insured in the most simple way, by windows or air holes opening at both the upper and lower parts of the wards, close to the ceiling and the floors. Some people imagine, that to rub the pewter utensils, until they shine like silver, and then to range them in military array, to be looked at, but not to be used, implies the very acme of cleanliness and good order. We, however, conceive, that to keep every article in its own place, appropriated to its own purpose, and free from every thing offensive or disgusting, is quite a sufficient proof of neatness and good order in acute wards. In convalescent wards, indeed, the patients may be advantageously employed in various works subservient to neatness, and even to show.

When Dr Carter mentions particulars, it is often done in such a manner as to excite our curiosity, without at all contributing to its gratification. Thus, he tells us, that in the kitchen of the hospital of St John, at Turin, "there were several ingenious contrivances for saving time and labour, and rendering fewer servants necessary." We were much pleased with this, and we were in expectation of having some account of these useful inventions. All that we hear of them further is, "that one of them was for raising provisions into the wards, and it was certainly calculated to save a good deal of trouble."

But while he is so provokingly barren on subjects of real importance, he finds room for such pieces of intelligence as the following. "The hospital of Santa Maria Nuova, at Florence, was built by Folco Portimari in the year 1287. The façade

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are most pertinent, and those on the advantages of medical travelling particularly so. Vol. III. p. 178.

was commenced by Buontalenti, a celebrated architect, in 1611, and finished by Giulio Parigi." In the same strain, we are informed, that "The Santo Spirito at Rome was founded with the church in 1198, and has been repaired and enlarged by several Popes, especially by Alexander the 7th, Benedict the 14th, and Pius the 6th. It is situated in that part of Rome beyond the Tiber, which has received the name of Citta Leonina, from its having been surrounded by a wall by Leo 4th." Did all this serve as preface to any thing in the shape of medical information, its inanity would in some degree be redeemed; but, alas! it only ekes out the page, without enhancing its value. In the two cases now before us, it is inexcusable, because a voluminous account of the hospital of Santa Maria, and St Bonifacio, has been published, from which surely might have been extracted, details of much more importance than the names of the different architects. * In the case of Rome, no one is ignorant of the topographical descriptions of Baglivi and Lancisi; and there is a most interesting modern work published by De Matthæis, giving an account of the clinical school and hospital of Santo Spirito. No less than three papers on the medical topography of Lisle are now before us, † and doubtless many more are extant, but Dr Carter prefers the "Guide des Etrangers." He takes his account of the climate and diseases from it, and, accordingly, among other matters of equal value, we are favoured with the very important intelligence, that, in addition to other good things, "the country people about Lisle are in the habit of eating bread and butter, and new cheese, early in the morning, and between dinner and supper," &c. &c.

Another very striking deficiency is the neglect of useful dates and references. We are left in uncertainty as to the periods at which several of his visits were made. He was at Paris in 1816, at Geneva, and in some parts of Italy, between 1814 and 1818, and in Portugal in 1812; but we are obliged to guess at what period he visited, or how long he remained in other places. His references to books, from which we might draw more ample information, are remarkably scanty, and when they are mentioned, it is not in a satisfactory manner. Thus, for instance, under the article Lisbon, he refers to a memoir of Dr Bacta on the epidemic fever of 1810-11, but where to be found, or

* Regolamenti dei regi spedali di Santa Maria nuova e St Bonifacio, di Marco Covoni Girolamo. 4to, Firenz, 1789. 416 pages.

† Hautesierck, Recueil des Observations, Tom. I. De Horne, Journal de Medecine Militaire, Tom. IV. Journal de Medecine, Tom. VII.

whether in the English or Portuguese languages, he does not tell us.

But we are tired of finding general faults; we shall, therefore, examine some of the individual articles. Wherever we can glean any thing like useful information or suggestion, we shall give full credit to the author, and when we can supply either upon our own authority, we shall do it to make some amends to our readers. Before commencing this course, however, we should inform them, that the present work was not intended as a separate one, but was meant to be incorporated with a larger and more general publication; indeed, the author, in his preface, expresses his doubts of the fitness of his observations to meet the public eye as an independent volume,—doubts which entirely coincide with our deliberate opinion.

We are sorry to find, by Dr C.'s remarks on Geneva, that the hospital of that intellectual city is in debt, but how contracted we know not, although nothing could have been more easy than to procure, from the liberal physicians who attend it, copies of the annual abstracts of receipt and expenditure, which are published for the information of the inhabitants. In 1815, Dr C. tells us, that the deficit was nearly 47,000 florins; in 1816, by a rise in the rents of houses, &c. belonging to the hospital, the deficiency was not quite 18,000; in that year, the revenue was L. 11,119 Sterling. We must not suppose that the revenue is all spent on the patients in the house; the out-patients also are supplied with medicine and money, and a trifling salary is paid to the medical officers, which our author states at about L. 20. The committee for conducting the affairs of the hospital, he tells us, consists of a President, Vice-President, Treasurer, Secretary, and fifteen members. The medical establishment consists of one physician and one surgeon for the house, and two physicians and one surgeon for the town patients. The hospital can contain 120 patients, (besides soldiers.) The average number in the house is about 80; the disbursements for the house in 1816 were 175,881 florins; while for the out-patients there were expended 352,550. The hospital he states to be clean and well ventilated. We understand, however, that the woollen curtains, which formerly were very common in hospitals, still remain to some of the beds at Geneva, which must, in such a situation, be a serious impediment to ventilation and cleanliness.

Dr C. mentions, in terms of just commendation, the soup-kitchens established during the winter of 1817, but, as usual, he omits particulars. Our readers who feel an interest in such charitable institutions, will find an account of that at Geneva, in a paper by Dr De Roches, " Sur l'etablissement de soupes à la

Rumford," in the Bibliotheque Universelle, Tom. IV. for 1817. Besides these soup-kitchens, there were two other establishments at Geneva, for the extraction of the nutritive part of bones. In one, under the direction of the ladies, the bones were simply boiled, and they furnished a jelly nutritive and portable, in so much as to be sent to the destitute poor of Savoy. The same bones were treated with dilute muriatic acid at another establishment under the direction of one of the learned societies; the phosphate of lime was dissolved; and the gelatine which was left behind was washed, sliced, and dried for home consumption, and for exportation to the neighbouring poor. Bones properly bruised were also delivered to them, and when boiled with or without herbs, they formed a good soup, and were employed even a second time for that purpose. Great praise appears to be due to Baron Eichthal of Munich for his investigations on the gelatine obtainable from bones, by boiling in a vessel on the principle of Papin's digester, and for his applying those substances which had hitherto been rejected as useless, to the furnishing an wholesome article of food to man. From his calculations, upwards of 53,000 quintals of bone were annually thrown away, or served as food to the dogs of Munich. From this quantity, there might have been furnished nearly 10,000 quintals of jelly, and 2000 of animal oil, worth, on a rough calculation, upwards of a million of florins. On a corrected calculation, it appears that 20,944 human beings could be furnished with one meal a day for an entire year, on 2300 quintals of gelatine. The establishment of Geneva seems to have owed some valuable hints to Baron Eichthal. An ingenious physician of Geneva, Dr Gosse, junior, made about this period some very interesting observations on the wild plants of Switzerland, which may be used as aliment. We cannot afford room to enlarge upon them, but we may observe, that plants hitherto supposed noxious, or medicinal only, as Colchicum autumnale, and Gentiana lutea, furnish a considerable proportion of alimentary matter under the treatment proposed by him. *

Dr Carter mentions the Lunatic Hospital of Geneva, and animadverts upon the injudicious management of the patients. It gives us much pleasure to be able to state, that a scientific friend of ours, a native of that city, is now preparing materials which may lead to the amelioration of establishments of this description.

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* Bibliotheque Universelle, Tom. V. 1817. p. 63 and 67.

Our author mentions a division of duties among the managing committee of the hospital, which strikes us as worthy of imitation; one undertakes the inspection of the linen, one of the clothes, &c.; and we suppose others of the food, &c. &c. We shall take the liberty of offering in this place some remarks upon two very important points of hospital arrangement, the linen and the food. Many persons unaccustomed to hospitals are apt to mistake blemishes, or indelible stains in the linen, for actual filth. In surgical wards, caustic is always productive of indelible stains; and where sores are washed by coloured vegetable tinctures or decoctions, as of bark for instance, the subsequent application of ointments, containing earthy or metallic salts, will act as mordaunts, and fix the colouring matter on the linen. Oils, mixed with earths or metallic matters, leave a stain most difficult to remove. Saturnine solutions, when dry, leave an ugly stain, almost impenetrable to water. Animal fluids, or the serum discharged from a blister, when dried on the linen, which, from the heat of the body, they very soon do, leave stains extremely difficult to get rid of. Thus, if the most scrupulously neat person scratches an accidental vesication through the stocking, a stain of a very refractory nature is left to mark the spot. Immediate immersion in cold water in some cases prevents this, but there is something still left for chemistry to determine on the subject of stains; some are indelibly fixed by cold water, and some by immersion in it are immediately removed; in some familiar instances one stain removes another; white wine, for instance, will remove the stain of Port; and salt will fix the stain of one wine, but, if thrown immediately on, will prevent the mark of another. Chaptal has given a process adopted at the Hotel Dieu for removing the old stains of animal matter. * We are informed that the following process is employed for that purpose at Guy's Hospital. The linen is first washed and boiled; the stains are then rubbed with soft soap and pearl ashes, and the article is tightly rolled up; it is kept thus rolled for a short time, and then it undergoes a thorough washing.

We have already alluded to the employment of bones, and we may mention, by the bye, that some of the nicest jellies of Paris and London are now prepared from them by the process with diluted muriatic acid. Calvi had long ago indicated the utility of employing bones in the preparation of soups for hospitals

* Annales de Chimie, Tom. XXXVIII. p. 291; vide also Chaptal's Chemistry, applied to Arts and Manufactures, Vol. III. p. 103.

by the adoption of Papin's digester; * and assuredly nothing can be more desirable than to procure wholesome food at a moderate rate. A special apparatus, however, is necessary for many of these processes, but we have seen a very simple preparation of a common article of food conduce much to its nutritive powers; it is employed in the military hospitals in Ireland, and consists in steeping all the oatmeal used in the hospital in cold water for some hours before subjecting it to heat. In these hospitals, also, thirteen ounces of raw beef, bone included, are allowed to produce half a pound of boiled beef without bone; a liberal allowance, but a necessary one, considering the loss by boiling. It would be well if the physician of an hospital would recollect this circumstance when he prescribes, and specify whether he means his patient to have the weight of meat which he orders, in its raw or its cooked state.

In some foreign hospitals there exist singular abuses on the subject of food. We recollect visiting the great hospital of San Juan de Dios at Cadiz some years since. On certain days, large trays of provisions of all kinds were sent in from rich families, and other charitable inhabitants of the city; on other days, the food has appeared to us extremely scanty, and too much left to the disposal of the servants of the hospital. We strongly suspect that that class of men, who, according to Le Sage, "grow rich by managing the affairs of the poor," is not yet extinct in the dominions of the Spanish monarch. At Milan, also, the hospital is on certain days crowded with the friends of the sick, who bring them all kinds of food, a practice which the physicians loudly complain of. At Vienna, there is a sort of tavern in the general hospital, ostensibly for the accommodation of the pupils, but where a patient, who can procure money, can doubtless, in spite of every regulation, procure improper food, and liquor also. Some foreign hospitals have butcheries attached to them. In an economical point of view, this may sometimes be desirable, but we confess we prefer the mode of getting in the meat from a distant slaughter-house.

Of the hospital of Berne we are told by our author that it is one of the best managed he ever saw, but his description of it is, nevertheless, one of the shortest in his book. By his account, we would be led to suppose that there was but one hospital at Berne;—we can only speak of Berne as it was in 1806;

* Calvi, De Medicamentis pro Nosocomiis et jusculis parandis. Paris, 1764. 4to. The works of Parmentier and Count Rumford are well worth consulting on the subject of food.

—then, and we believe now, there were five hospitals: two in the town, and three at the distance of a mile and a half; one for lunatics, one for venereal patients, and one for incurables. Under the head Medical Intelligence, in our number for April 1809, Vol. V. p. 253, will be found a short, but not uninteresting sketch of these hospitals.

The account of Nice is one of the longest in the book, and contains some approximations to medical information, especially on the use of digitalis in consumption. It is carried to the enormous extent of scruple doses of the powder daily; and hourly doses of the infusion, to the quantity of half an ounce, are not unusual. Dr C. supposes that the digitalis of Nice is less powerful than that of Britain. Before we can admit the justice of this explanation, we would wish to ascertain the period at which the plant was gathered, the state of the leaves, mode of preparation, and whether any other article be administered along with it, or about the same period, which possibly may have the effect of counteracting its activity. We are the more anxious on this point, because Dr C. mentions in the same article, that, where cinchona bark has failed in the removal of intermittent, a combination of that medicine with the tartrate of antimony has been found efficacious. Now, we need scarcely remind our readers, that a decomposition takes place in this most unchemical mixture; and possibly the digitalis also may be decomposed by some unnoticed adjunct.

At Turin, the bread is prepared in a bakehouse attached to the establishment. To this the same objection of producing fetor and filth does not apply as to the butchery; though, on the whole, it is perhaps better to procure it out of the house. The government of the hospital of St John is confided to equal numbers of clergy and laymen, three of each; it can contain 550 patients. The medical establishment is six physicians, at a salary of between 200 and 300 franks per annum; two house physicians, and two surgeons. The servants are foundlings, and are paid eight or ten franks a month for the men, and six for the women, beside their clothing, lodging, and boarding. The revenues are 70,000 francs a year; the expence of each patient about a franc (10d.) a day. We have no account of the other hospitals, nor of the museum; indeed, our author does not even mention the latter, although one of the finest in Italy, under the direction of Professor Bonelli.

Dr Carter mentions what, indeed, could scarcely have escaped notice, that Padua, like the other universities of Italy, is falling into decay. This, he hints, is in some measure owing to the Austrian government. "Whether the House of

Austria adopts the best means to promote the happiness and dignity of its Italian dominions, is, indeed, a question which, I believe, (says Dr C.) both the natives of that country, and most travellers, will be inclined to answer in the negative." Now, the plain fact is, that the majority of scientific men in Italy use no delicacy in expressing their opinions on the subject, and are loud in their execrations of their present rulers. Anatomy, the basis of medical science, is ruined at Padua. The period of study, which was formerly indispensable, was three academic years; but the Austrians have reduced this period to one session of six months. The inevitable consequence of this injudicious measure is, that the study of anatomy has received a mortal blow; and it requires no great prophetic skill to foresee that pathology and therapeutics will shortly, if they do not even now, feel its deadly effects. To accelerate this deplorable event, the Austrian government has displaced several of the professors for various causes, principally free-masonry, or abolished their chairs, while they have, at the same time, diminished the salaries of those they have left. To crown all, nothing can be published in Italy, were it only a new proposal for phlebotomy, without being sent to Vienna, to undergo the examination of a censor, and receive his "Imprimatur." The measures and the habits of the Austrians furnish their sensitive and epigrammatic subjects with constant matter of discontent and ridicule. The Italian literati consider, or affect to consider, that the sun of science has set upon their universities since the Restoration. Hence, in allusion to some indulgences in food to which the German soldiers are said to be addicted, it was lately remarked by one of the professors, "Comment voulez-vous que des hommes qui mangent les chandelles, apportent des lumières?"

At Florence, the mortality is high in the hospital of Santa Maria Nuova. It is said to be about ten per cent.; "but I hope," adds the Doctor, "that this statement is not perfectly correct." We have not the smallest doubt that humanity has prompted this hope, but we apprehend that humanity will be found to have less to do with this subject than is generally supposed. The more severe the diseases, and the more violent the injuries, the greater will the mortality be of course; but, at the same time, it is evident that a greater mass of human misery is selected for alleviation. Before we make comparisons of the relative mortality of different hospitals, we should be well informed of the nature of the cases received into them. The assertion, "that the greater the mortality, the more useful the hospital," must obviously be taken under great limitations, and excluding altogether those hospitals where the deaths have been

occasioned by ignorance, neglect, or gross mal-administration, causes which we trust do not exist in any European establishment. In some of our own best hospitals we believe the mortality to be highest; and, at the Hotel Dieu, the mortality always kept pace with the improvements, and the extension of its real benefits. Between the years 9 and 11 of the republic, when the ameliorations were progressive, the mortality increased from one in seven to one in six, and in the early part of the latter year to one in four. The principle which this fact illustrates has been held by some eminent and humane physicians,—by Frank in Germany, and by Burserius in Italy. Upon the whole, numerous preliminary considerations are required, before an opinion can fairly be pronounced upon the mortality of any hospital, but our limits will not admit of discussing them here; we shall, therefore, turn to Dr Carter.

Whoever wishes for an account of the Museum of Florence need not open the present publication. Two pages, the matter of which makes no amends for the trouble of turning them over, contain the whole. Dr Carter tells us, that artists are at present employed upon a series of wax casts, illustrative of comparative anatomy. Some preparations of the brain have been mentioned to us as surprising specimens of the beauty and correctness of these preparations. We trust that the artists are better paid now than they formerly were. Under the old government, their allowance was so miserably small for themselves and their families, that famine and despair drove some of them to suicide. The present government, we are also informed, has abolished the professorships attached to the museum by the French. The result must be injurious, if not absolutely destructive, to that splendid collection.

Dr Carter is silent on the anatomical theatre, where some of Mascagni's celebrated preparations are still to be seen, although, as might have been expected from the hurried way in which they were prepared, in a decayed state. The present surgeon of Napoleon Bonaparte, Antomarchi, is preparing a splendid work on the subject, as an amusement for his leisure hours at St Helena. Dr Carter only mentions the hospitals of St Bonifacio and Santa Maria Nuova; he does not give us any account of an hospital which, we believe, was opened for fever cases some time ago, opposite the former. We should have much wished to know the rules and regulations adopted for it, and to have an opportunity of comparing them with those of similar establishments in England, and with our own at the Royal Infirmary and Queensberry House.

Dr Carter makes no mention of the kitchen of the hospital at

Florence, although it merits every attention, from the ingenuity with which it is fitted up, and for the saving of fuel which is produced by the structure of its grates. The flame is confined in an iron chamber, its intensity is moderated by dampers, and it is directed laterally round the pots, several of which it is made to heat at the same time, at an expence of only one third the quantity of fuel employed in ordinary kitchens. This invention is due to a Florentine, whose name we lament that we do not now recollect. It has been in use for several years, both at Florence and Sienna, (where also the chemical laboratory is fitted up on the same plan,) and it has certainly long preceded, if it did not suggest many of the inventions of more modern times. In the preparation of every species of food wherein vegetable and farinaceous matters are employed, which, by their gravity, fall to the bottom of the boiler, great risk is incurred, if the flame directly strikes upon that point, of producing an empyreumatic flavour by the burning of these matters. To prevent this, Count Rumford used a double bottomed boiler. In the common boiler, constant stirring becomes necessary, during which operation the steam escapes, carrying off with it much heat, and often diffusing a very faint and sickly smell throughout the hospital, besides affording a frequent opportunity to the servants of abstracting the contents, under the pretence of preserving them, a practice which seems to come peculiarly under the well known culinary proverb, "That too many cooks spoil the broth." But when the heat does not directly affect the bottom of the boiler, and the vegetables, &c. lie below the level of the flame, they are equally well boiled; the necessity of stirring is obviated; the broth may be placed under lock and key, and all chance of burning is effectually prevented. Dr Hope has fitted up the boilers in the Edinburgh Royal Infirmary on this very important principle.

Our author mentions the establishment for lunatics; and states, that, in one of the corridors, allotted for the men, there was a very bad smell, which seemed to argue some neglect in removing offensive matters from the cells. Dr Carter has omitted to mention the structure of these cells. They have each a privy within them, (as we find by notes taken on the spot,) a great nuisance, in our opinion, for such a place, except, possibly, for the fatuous or the furious, who must necessarily be confined. For the former unfortunate class of beings, however, the contrivance at Antwerp appears to us much better, where the torpid idiots are seated and secured to a chaise percé.

We cannot deny ourselves the pleasure of mentioning in this place the admirable contrivance of Mr Sylvester at the Derby Ge-

neral Hospital, for obviating the foul effluvia of the water-closets of that house. The particulars would be unintelligible without a plan, for which we must refer to his most ingenious work.* The seat, and the mode of supplying water, are on the same principles as in Bramah's ordinary apparatus; but the great superiority of Mr Sylvester's plan is, that the water-closets are freed from their fetor, without the least care of the person using them. On his entrance, he fills them with fresh air, while, by the motion of the door, which is rendered air-tight, the foul air is forced off through the roof. On his shutting the door, fresh air is left behind. Every one knows what nuisances these closets are when, from ignorance or neglect, any of the tubes are filled up with dirt or rags; or when, from frequent friction, or from chemical decomposition, occasioned by the action of the gases evolved from the feces, the metallic materials of the pans, or the wires communicating with the cisterns, have been injured. Every attempt, therefore, to improve them is an object of primary importance in an hospital. In the Derby Hospital just mentioned, the ingenuity of Mr Sylvester has been extended to almost all the other branches of domestic economy; and, by proper management, heated air and steam are made subservient to the important purposes of cooking, washing, drying, &c.

It is with great pleasure we can inform such of our readers as may have received a part of their medical education in our own Royal Infirmary, that, under the able management and direction of our ingenious Professor of Chemistry, Dr Hope, the agency of steam and heated air has been called into action in the kitchen, wash-house, and drying-room of that building, as far as its original structure will at all permit.

Our author appears to have been twice at Rome; in 1814-15, and in the spring of 1818. We have in vain looked in his work for information on the subject of the new clinical school instituted by Pope Pius VII. There lies before us, however, the first volume of the work already alluded to, from which we are furnished with some particulars of this institution.† It appears that funds were wanting wherewith to found a new hospital, and therefore four wards of the Santo Spirito were given up for the purposes of the new establishment, while, at the same time, a surgical clinical school was founded in a part of the Hospital of St James for incurables, and

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* Philosophy of Domestic Economy, &c. By C. Sylvester, Engineer. 4to. Nottingham, 1819.

† Ratio Instituti Clinici Romani a primo ejus exordio ad Kal. Septembris 1816. Exposita a J de Matthæis. Romæ, 1816.

ced under the charge of Joseph Sisco. The ordinary sicians to the medical clinical school are Joseph Tagliabo l Joseph de Matthæis, who take the duty alternately for ee months. Falcioni was assistant physician, and Flajani is istant surgeon, and especially charged with the department norbid anatomy. There are also two consulting physicians, pi and Morichini,—the only two medical men of Rome, by bye, whose names are mentioned by Dr Carter. The name the latter is familiar to English philosophers by his experi- nts on the magnetising power of the violet rays. The second me of the above work has not reached us; it is to be edited Tagliabo. The part already published is by De Matthæis, and tains an account of the clinical establishment of Santo Spi-, and a topographical account of Rome, together with some eorological tables; tabular specimens of the practice; a ta- of admissions, discharges, and deaths; and a table of the pital diet. The admissions from November 1815 to August 6 were 227; the deaths for the same period, 24. The most l disease was pneumonia; six patients having died out of ty affected with it. The most frequent forms of disease were rmittents and rheumatism; and we were sorry to see no er than nine cases of variola. Of syphilis three cases only e admitted.

The diet in this hospital will appear singular to the English sician. There are no less than seven different rates. The est is beef-broth ℥8, with the yolk of an egg, morning and ning. The full diet consists of no more than six ounces of ad, ten drams of gruel, three ounces of beef, and six of wine, ning and evening. The weight of the gruel is determined hat of the raw farinaceous material, which is varied daily. ra allowance of bread, wine, egg, &c. are left to the discre- of the prescribing physician. The patients, on the day re their discharge, receive a double quantity of wine; they then transferred in a wheel carriage to a convalescent hospi- where they are kept for three days before their final dismissal. Ve by no means wish to recommend complicated or parsi- nious systems of diet; but we cannot avoid expressing our viction, that our British hospital dietary is too high in many ances, and that a most serious improvement might be made, in a medical and financial point of view, by following the mple of some foreign hospitals in their diet for acute cases. may take some future opportunity of offering to our read- comparative views of the established dietaries in some of principal hospitals of England and the Continent; and we much mistaken if we cannot prove that the diet in many

foreign hospitals is much better adapted to medical purposes than in our own, and without being nearly equal in expence.

The articles Leghorn and Naples, in addition to those already adverted to, close the Italian division of Dr Carter's work. Of Leghorn he speaks in high general terms of praise. It appears, from his account, that at the hospital for women, the patients who are able to work are obliged to spin, sew, &c. Half the produce of their labour goes to the establishment, and half to themselves, provided the work has been done for a private individual, but if for the hospital, they only receive one third. This plan he suggests for consideration in England. He mentions nothing of the hospitals of Naples. Indeed, twenty lines contain all he says in the whole article, but we take advantage of the opportunity of informing our readers, that we understand a new mode of employing mercury is just now in vogue at Naples. Every one recollects the unfortunate Dr Cirillo's employment of the saline preparations in ointment; his chief application was the corrosive sublimate applied to the soles of the feet; and it is stated by those who have used it to be very rapidly absorbed. Mr Torreillhe, of Strasburgh, proposed, in the year 1810, to rub the common ointment into the glans and prepuce in men, and to the labia in women. The absorption from these surfaces is astonishingly quick, and Mr Torreillhe conceives that he gains a great advantage, *by pursuing the enemy on the direct route.* In the new Neapolitan mode, a portion of ointment is placed in the axilla, whence, without any friction whatever, it is rapidly taken up into the constitution, according to the accounts we have received. We had prepared some few hints on Dr Quadris' new mode of treating bronchocele by seton, but as we can now refer to a full account of it by Dr Somerville, principal inspector of military hospitals, in the lately published volume (10th) of the Medico-Chirurgical Transactions, we shall not enlarge on the subject. We may mention, however, as an article of medical news, that the veteran Cotugno is still alive at Naples, and meditating another professional publication.

The countries or hospitals which have been occupied by our armies, are more dwelt on by Dr Carter, than those upon which we were more anxious for intelligence; and, accordingly, we find, that Sicily, Lisbon, Holland, and the Netherlands, are spoken of somewhat more diffusely than other places; indeed, more than half his volume is dedicated to them.

We find nothing upon which we shall detain our readers in the article on Sicily, which is now so well known, by means of the work of the late army physician, Irvine.

Under the head Lisbon, he speaks in succession of its hospitals, the state of medicine, the climate and the diseases. We shall not follow him on these well known subjects. He bears testimony to the immense improvements effected in the Portuguese hospitals, by the surgeons of the British army, and he speaks of those appropriated to the British themselves in terms of due praise. The hospital occupied by the royal artillery he characterizes as a model of neatness and good order, and he might, with equal justice, have extended the same eulogium to those occupied by every other branch of the service. We have visited them all, and we might compose an entire memoir on what we saw and what we thought; but the best practical illustration that we can give of the zeal and intelligence which directed the medical department of the Peninsular army, is the following fact. During the ten months from the siege of Burgos to the battle of Vittoria inclusive, the total sick and wounded which passed through the hospitals was 95,348. By the unremitting and well-directed exertions of Sir James M'Grigor, and the medical staff under his orders, the army took the field preparatory to the battle, with a sick list under 5000! For twenty successive days it marched towards the enemy, and in less than one month after it had defeated them, it mustered within *thirty men* as strong as before the action; *and this too without reinforcements from England!!** Whether the illustrious captain who led this favoured army, experienced in his own person the skill of his physicians, or whether, like the Roman conqueror,

"He had a fever when he was in Spain," †

we know not; but of this we are convinced, that no general, either of modern or ancient times, ever owed so much to those who conducted the medical concerns of his troops.

The hospitals of Leyden, Antwerp, Ghent, and Brussels, are spoken of by Dr Carter in terms of high praise. From our own knowledge we can corroborate his general testimony, and did our limits permit, we could furnish many interesting particulars, which have altogether escaped his attention.

His account of the clinical lectures at Ghent is the best thing in his book, and as we have so frequently had occasion to find fault, it is but fair that we should let Dr Carter speak for himself, where, in our opinion, he does it to any advantage.

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* See Guthrie on Gunshot Wounds, Preface. The ranks were recruited by convalescents.

† Julius Cæsar, *Act 1st, Scene 2d.*

"It is chiefly on account of the clinical lectures, that I have said any thing about this hospital. They are given every morning from eight to nine o'clock. How useful and instructive they are I can testify from experience, very short experience indeed, but such as was sufficient to enable me to appreciate their advantages, and to make me lament that they are not more attended to in our great hospitals at home. The patients for these lectures, who are selected out of the great mass, are distributed among such of the pupils as are sufficiently advanced to be able to examine them properly, and to prescribe for them in the absence of the physician. When the professor visits them, the several pupils are expected to give a clear account of the state of their patients, of the symptoms, &c. Their mistakes are corrected by the professor; and when I was at the hospital, he corrected them in so clear and decisive, yet, at the same time, so mild a manner; he so kindly commended those who had been assiduous, and so good naturedly rebuked those who had been remiss, that I am sure his pupils must be attached to him, and, if they are good for any thing, must profit by his instructions. *

"After each pupil had described the case assigned to him, and had mentioned what treatment he had adopted, the professor gave his sentiments upon it at some length, if he considered it an important one; in short, gave a real clinical lecture. At the time these notes were written, there happened to be some interesting cases in the hospital, for a fever, of a typhoid type, was prevailing epidemically in the town. I observed two or three recent cases, but the majority of those which I saw were convalescent. The treatment appeared to have been judicious and successful. Topical blood-letting seemed to have been very generally employed, and with marked benefit wherever there existed much affection of the head or of the chest. Affection of the chest, indeed, was a very common attendant of the fever which prevailed this year at Ghent. Typhus, with catarrhal symptoms, was marked upon several of the slates attached to the patients' beds." pp.198—201.

He gives more than usual information in his article Amsterdam. In the hospital of St Peters at that place, the wages of the men servants are 20d. those of the women 15d., with something extra for tea or coffee, and both sexes are boarded. In this hospital, there appears to be a weekly statement of the number of patients in the house, the admissions, discharges, and deaths. It is capable of containing 600 patients, by placing beds down the middle of the wards. This practice is extremely injudicious, and should never be had recourse to.

* "The present clinical professor is Dr Van Rotterdam, to whom I feel much indebted for acquainting me with the manner in which medical studies are conducted in the university of Ghent, and for putting me in the way of forming a judgment respecting them myself."

We may here observe, that it has been lately the practice at the Santo Spirito of Rome, by way of saving the funds, to crowd the patients into one ward, while many others are left empty. In 1818, there were actually *five* ranges of beds in some wards.

The foundations for lunatics appear to have excited an unusual degree of interest in our author, and to that of Amsterdam he assigns a larger space than to all the establishments of Milan, Padua, and Pisa, put together. The medical officers are two physicians and two surgeons; the number of lunatics, 50 men and 90 women; but of the diet, or the funds, we have no account. The governors appear to control the conduct of the keepers with much strictness, and the moral treatment of the patients is pursued with great propriety and attention. We trust we shall not be supposed to advocate the system of severity. Unnecessary severity we deprecate; and all curtailment of the rational comforts of the patients we are decidedly averse from; but we must say, that there is a certain whining cant of humanity in which we hear many persons indulge, a compliance with the suggestions of which, seems much more calculated for the gratification of the visitors than the benefit of the patients.* A constant inspection by the proper authorities will go far to correct abuses, but these inspectorial visits are not of such modern date, or of such exclusively British origin, as we are in the habit of supposing. In the twelfth century, Benjamin, the Jew of Tudela, found a large building at Bagdad, called "the House of Mercy," destined for the reception of lunatics. They were in chains, it is true, but the magistrates made a monthly visitation of them, and suffered those who had recovered their reason to return to their friends.†

The due occupation of their time is a point of essential utility to lunatics. At the hospital appropriated for their reception at Berlin, the employment of every hour is fixed, and is announced to the patients by signal; each individual is fully occupied, and the strictest discipline is maintained. Perhaps, as has been observed to us by an enlightened friend, this military appropriation of time is not consistent with our English manners and ideas of liberty. This may be the case; but, in some shape or other, we are advocates for the regular employment of lunatics. It has often struck us, that what is true of other hospitals may be said of

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* A patient who is quiet the moment a strong iron handcuff is applied, will seriously injure himself or his keepers in a manacle of leather; he knows the inutility of struggling in the first, and he rarely loses hope of escaping from the latter.

† Benjaminis Itinerarium. 8vo. Lugd. Bat. 1638. P. 69.

those for lunatics;—to make them places of recreation and indulgence, which the unfortunate inmates never experienced in their healthy state, is a very likely mode of insuring their return, after a temporary absence at their own homes and ordinary occupations. There is an ingenious plan adopted at Sonnenstein Lunatic Asylum, near Dresden, an establishment where bodily exercise is looked upon as of great importance in the treatment. By this plan, sluggish patients, who often lounge about the fire all day, and sleep very little at night, are obliged to exert themselves; they are placed in a machine somewhat on the principle of the wheel formerly employed for the reception of turn-spit dogs; they are properly secured, to prevent all injury; after the first step made in this machine, the person within must necessarily continue to move his limbs as in walking. By these means, after some time, fatigue to any extent may be produced, and the patient often falls into a sound and refreshing sleep. Another very useful contrivance, and of great simplicity, is employed at Berlin to restrain furious patients. They are seated in a chair; the hands secured in proper gloves, but their feet not allowed to touch the floor. This prevents all violent motion as effectually as possible. The inventor we know not; the machine, stated to be used near Dresden, is employed by Dr Piegnitz. But all this time we have forgot Dr Carter.

Our opinion of his work scarcely requires summing up:—Had it been entitled Memoranda, or Sketches, or any thing that did not imply a description of hospitals, climates, and diseases, we should have risen from the perusal with diminished disappointment. We lament this, because Dr Carter is, if we are not mistaken, the first travelling Fellow of Oxford, who has given any account of his medical labours; and, on the allowance of L. 300 per annum for ten years, half of which were to be spent in travelling for the improvement of physic, much might have been done to fulfil the intentions of Radcliffe, and many important facts might have been collected. Far be it from us to insinuate that Dr Carter has not improved himself; indeed, we believe that no man can have travelled so long without having acquired much useful knowledge; but we must say, that he has been singularly unfortunate in his attempt at communicating it to others.

II.

Pathological and Practical Remarks on Ulcerations of the Genital Organs; pointing out the Characters by which they may be discriminated; shewing the consecutive Diseases to which they give rise; and containing an Inquiry into the Use of Mercury in their Treatment. By JAMES EVANS, Surgeon of his Majesty's 57th Regiment. Part I. *On Ulcers which are not to be considered as the primary affection of Syphilis, and which do not require Mercury for their Cure.* pp. 127. 8vo. London, 1819.

THE subject of the work is one on which much has been written lately, but which we regard as by no means exhausted; and highly as the contents of this volume compel us to respect the talents of its author, we cannot flatter him so far as to say, we think he will not leave much,—very much indeed,—to future inquirers. The little attention that seems to have been bestowed by the medical world on the investigation which has recently been conducted by the surgeons of the army, and the results of which have been, from time to time, communicated to the public, in a form so unassuming, as to prove that the love of truth, not the vanity of authorship, prompted the writers, has excited our surprise not a little. The generality of medical men appear to have regarded writings, which served to overturn practical doctrines, considered hitherto as infallible and unassailable, respecting one of the most important diseases which came under their cognizance, with no greater degree of interest than might have been fairly bestowed on an insignificant addition to an over-swollen Materia Medica from the woods of New South Wales, or on a dispute about the form of the cancelli of the bones between two German anatomists; whilst here and there a sciolist has taken up his pen to prove, that no result had appeared which might not have been readily anticipated,—that the inquirers were ignorant of the works and doctrines of Mr John Hunter,—that the pseudo-syphilis of Mr Abernethy recovered under their hands, and they fancied they were curing the real disease;—as if a set of men, the learning and research of some of whom are proverbial, and of whom others rank in the very first class of well informed practitioners, could be ignorant of books and doctrines familiar to the merest Tyro in physic! Not only is it impossible that this should be

the case with Drs Thomson and Hennen, Messrs Guthrie and Rose, but we would assert, with equal confidence, of those medical officers of the army, who have taken a less conspicuous, but not a less useful, share in the investigation,—who have written on the subject, not *directly* to the public, but to it through the medium of the Medical Board,—that they possess a degree of knowledge respecting the disease very superior to that implied in the writings of their assailants; whilst the very familiar sources of information, which these have chosen to suppose them ignorant or neglectful of, have not been unresorted to.

But superficial information and flippancy are venial errors. There is still another class of persons (fortunately not numerous) upon whom we might feel disposed to bestow a few words of castigation, did severity at all accord with the habitual spirit of our journal; for when men, who, by the humble way in which they have communicated their ideas to others, have evinced contempt of fame, and solicitude only for the benefit of medical science, are assailed with oblique hints, about sporting with the "health of our brave defenders," it is difficult not to conceive some degree of disgust, as well of the weak sentimentality of the language, as of the feeling which prompts it. Happily we have it in our power to give a very satisfactory refutation of accusations of this kind in the following words of a circular letter from the Army Medical Board Office. "It appears that the 1940 cases treated as here described" (without mercury) "are now recovered of their venereal complaints, and either doing duty as soldiers, or have been discharged the service for military reasons, altogether unconnected with the venereal disease." This is sufficiently conclusive as to any permanent constitutional injury inflicted on the soldiers by the manner in which their complaints are treated in the military hospitals; and this statement, too, stands advantageously contrasted with another, in the same document, respecting men who had undergone mercurial courses on account of their venereal diseases. In other respects, as the period of confinement, &c. the non-mercurial treatment might be shewn, from the same paper, to be by no means comparatively disadvantageous to our soldiers, did we conceive it correct to be very liberal in quotations from a record which cannot be considered as fairly before the public.

We trust that Sir James M'Grigor and Dr Franklyn will excuse the liberty we have taken in making one extract from their valuable circular;—to make many might be an unfair anticipation of a regular publication, which we sincerely hope will proceed from the same highly respectable quarter. As an additional argument, we may observe, that we have been told by persons of

undoubted veracity, that officers almost uniformly choose to have their venereal complaints treated without mercury, which would not be the case did the soldiers suffer from the same plan. But is it at all credible, that a line of conduct, the mere abstaining from which it would be an abuse of language to term humanity, should be pursued by the members of a profession which has been said to be "more favourable than any other to the formation of a mental constitution, that unites in it very high degrees of intellectual and moral vigour; because it calls forth the steady and unremitting exertions of benevolence, under the direction of cultivated reason, and, by opening a wider and wider sphere of duty, progressively augments their reciprocal energies?" *

We must now interrupt our general remarks, to give some account of the work before us. This first part, professing to treat of "ulcers, which are not to be considered as the primary affection of *syphilis*, and *which do not require mercury for their cure*," is divided into two books; in the first of which, diseases generally or entirely independent of sexual intercourse are examined, whilst the second comprises such as generally or entirely arise from this intercourse.

To the first class are referred Phlegmon, Anthrax, Tubercula, Herpes Præputialis, Psoriasis Præputialis, and Ulcus Erraticum; and to the second, Excoriatio, Erysipelas, and what the author is pleased to term Venerola Vulgaris, V. Superficialis, and V. Indurata.

The diseases in the first book are described with considerable, but varying minuteness; for whilst Anthrax usurps ten, and Ulcus erraticum fourteen pages, what we consider as the most important disease of his first class, Herpes præputialis, is discussed in four. The very first page, indeed, of his first chapter appears to us to shew a little want of judgment in the appreciation of the relative importance of objects; it displays, too, a disposition, not in unison with the general character of our author, so far as we are able to estimate it from his work, to attribute to medical men a degree of ignorance or inattention they are not justly chargeable with.

"It is somewhat curious," says he, "that so much should have been written on ulcers of the genitals, and so little have been said of a disease at times so frequent, and often so formidable in its appearance, as phlegmon of the prepuce, or body of the penis; the fact I believe to be, that in almost every instance (in its ulcerative stage at

* Percival's Medical Ethics.

least) it has been looked upon as chancre; and if, when opened, the tediousness in healing, the slow and long continued ulceration which usually takes place, with the unhealthiness of its surface, and the production of bubo, be excuses, all these may occasionally be pleaded in extenuation of error." Then he subjoins in a note, "The only modern author I have met with, who speaks of this disease, is Mr Wadd, who gives a plate representing it in the suppurative stage. The learned and ingenious author of the work "Sur la Non-existence de la Maladie Venèrienne," (page 46,) tells us, that Gordonius, who wrote in 1303, speaks of abscesses of the penis."

Now, we candidly think that the writer himself gives, in the following page, a tolerably correct explanation of the silence which to him seems so embarrassing: "The appearance and progress of phlegmon in these parts being *exactly similar* to what they are when it occurs elsewhere, it will be superfluous to attempt any description." Phlegmon being the same affection wherever it is seated, modern surgeons seem to have acted judiciously in discarding it from the list of diseases of the penis, nor do we feel at all disposed to attribute their silence to its having "been looked upon as chancre." It is mentioned by many of the older writers besides Gordonius; amongst others we may cite Mesue, Haly Abbas, and Alsahazarius, as having named it, and that they did not confound it with an ulcer of these parts may serve to prove, that its diagnosis cannot be beyond the reach of medical men of the present day.

There is an able account of anthrax of the penis, and a well drawn up case, illustrative of the practice to be adopted when the sloughing action threatens to be excessive, or, to use the author's expression, "beyond what is necessary for the separation of the contents of the tumour, and the removal of some portions of diseased integument." His Tubercula are insignificant diseases, and do not seem to merit any other commentary; but the account of Herpes præputialis cannot be allowed to pass without the omission of the most important cause of this affection undergoing some observation. The meagreness of his description of the disease the author endeavours to repair by a reference to Dr Bateman, and, in so doing, he has chosen well; for, highly as we respect Mr E.'s talent for describing, and this work proves it to be of the very first order, yet we conceive that it is no reproach to any one to say, that he cannot surpass the graphic sketches of the writer of the Synopsis of Cutaneous Diseases. But why is not stricture noticed among the causes of this affection? The author tells us, that the cause will be most frequently found in derangement of the primæ viæ; but is it not quite as likely to be found in continuous as in remote

sympathy? We think it is; and experience has shewn us, that here, at least, "le vraisemblable est le vrai;" for not only do the two affections frequently co-exist, but the evident existence of the one may induce the practitioner to suspect, and often lead him to discover, the other. We consider the case related by the author at page 77, as an example of this affection arising from urethral disease. Nowhere in this work are diseases of the urethra alluded to as causes of ulceration or any affection of the prepuce, though, in the enumeration of such causes, either by the author to whom Mr E. here refers, or by the exalted individual (Mr Abernethy) to whom his book is dedicated, they have not been omitted. For Psoriasis præputialis and Ulcus erraticum we must beg leave to refer our readers to the work itself.

Of the diseases of the second book, Excoriatio and Erysipelas present little worthy of remark; but we are not without apprehension that the following grave claim to discovery with respect to the former may excite a smile on the cheek of some waggish reader. "It may be asked, when there exist such almost unsurmountable difficulties in ascertaining the exciting cause of this affection, how it happens, that a cause has been discovered which no former writer appears to have considered as such? namely, that of repeated and long-continued friction." Now, we must say, that we think this solemn trifling beneath an author, who, as we shall immediately endeavour to shew, has established a title to a very high rank indeed amongst minute observers and accurate delineators. This is exalted praise, but the following quotation will, we think, warrant our bestowing it.

"This disease," (Venerola vulgaris and Ulcus elevatum,) "which is more frequently met with than all other ulcerations of the parts of generation put together, may be seated on any part of the body to which its cause may be applied. Accordingly, though it is most frequently found on the body of the penis, the inner or outer surface of the prepuce, and on the scrotum, I have met with instances of it on various parts of the thighs.

"Its progress may be divided into four stages—1st, The pustular; 2d, The ulcerative; 3d, The elevated, or granulating; and, 4th, That of depression and cicatrization.

"The first stage comprises the first four or six days of the disease, and usually commences from three to seven days after connexion;—it begins with itching and redness, followed by the formation of a spherical pustule, surrounded with an areola.

"The second stage is ushered in by the formation of a scab, which supplies the place of the pustule. Under this, (the ulcerative process continuing to go on,) the accumulation of matter sometimes occasions considerable pain, until it forces its way out, by bursting the

cuticle, or by a portion of the scab being otherwise detached. The scab acquires, at each time that this oozing takes place, some degree of enlargement by an additional concretion of matter. Its form is oftentimes irregular, though generally it inclines to the circular. When first formed, it is rather sunk in the centre, until, by repeated accumulation, its thickness becomes sufficient to counteract this appearance. It varies in colour according to its age, being, when newly formed, yellow, but afterwards becoming darker and darker, until nearly black, the shade deepening towards the centre.

"It is in this stage of the disease, that these cases are most frequently admitted into hospital, when, if the scab be removed, a concave ulcer, of the oval or circular figure, with its surface of a glossy brown, an unhealthy red, or, what is more frequent, of a dirty yellow colour, is exposed.

"The termination of this and the commencement of the third stage, which usually takes place about the eighth or tenth day, is marked by an elevation of the edge, and a filling or rising up of the surface of the sore, which eventually becomes seated upon a fungus raised above the level of the surrounding parts. It is in this stage, and by these marks, that this ulcer may be distinguished from every other sore affecting these parts."

Then follows a more minute description of the state and appearance of the edge, surface, and base, in this stage of the ulcer, for which we must refer the reader to the work itself. The author informs us, that it is from the fourteenth to the eighteenth day that "the sore has usually risen to its greatest height." When it has attained this, "it remains stationary for an uncertain time, after which it gradually, though perhaps very slowly, declines and heals, which process forms the fourth stage."

We think all this original, and highly creditable to the writer's talent; nor do we conceive its claim to the former epithet to be at all impeached by what is subsequently, and we believe correctly, intimated by Mr Evans himself;—that the superficial sore without induration, but with elevated edges, as well as the sore without induration or elevated edges of Mr Carmichael, and venerola vulgaris, are "one and the same disease." Every surgeon must have seen the sore in question, but Mr E. alone has described it correctly. That he has done so we are warranted by our own observation to assert; and, in descriptive works, he who first depicts phenomena with accuracy has the same claim to originality as he who, in a work of a different character, is the first to give their real explanation.

With respect to the causes of this disease, the author supports the following theories. 1st, That it may arise from the application of matter from a sore of the same description. 2d, That

the matter generated will produce the same disease in the person generating it. 3d, That it may arise from an altered secretion without breach of surface. 4th, That gonorrhæal matter will produce it. The first is proved, beyond all question, by direct experiments; and the second seems to be a very fair induction from facts. The observations, upon which the third and fourth are founded, are liable to a source of ambiguity which seems unavoidable, and which the author himself has adverted to,—that ulceration of the female parts may exist beyond the reach of the eye. But though we think these propositions hypothetical in the present state of our knowledge, we nevertheless conceive them worthy of attention and investigation. We have now before us a manuscript copy, in English, of M. Cullerier's lectures, delivered at the Venereal Hospital in Paris, from which we extract the following words: "It," (the venereal disease,) "has been supposed by some to originate from whites in women; these produce gonorrhœa in the male; this chancres," &c.

Two cases are quoted, which the author considers as "well calculated to excite a suspicion, that this disease may arise spontaneously." It appears, that, of two soldiers labouring under the disease, the one asserted that he had had no sexual intercourse for six, and the other for five months. All men, who have examined into the history of the venereal disease, know that there exists nearly the same quantum of *written* evidence of the occasional spontaneous origin of the malady which committed fearful ravages in Europe at the close of the 15th century, as of any characteristic it possessed. Questions, connected with the source and communication of diseases, are amongst the most difficult that are proposed for the solution of the pathologist; but as here we can rarely have any *direct* evidence, but the testimony of the individuals concerned, in a case in which there is, generally, an obvious temptation to falsehood, we feel disposed to decide in the negative, or, at least, to agree with Mr E. "that we should not hastily admit the spontaneous origin as a fact."

Concise rules for the treatment of all these disorders are given at the conclusion of each chapter. They seem in general very judicious,—the sore is to be treated on rational surgical principles, whilst the constitution is to be attended to when it sympathizes, or is likely to do so, with the local affection. In this disease, for instance, we are told, that "when the symptomatic fever runs high, we must put the antiphlogistic plan in its fullest extent into practice; for, as has already been said, independent of the effect that constitutional affection has in impeding the

regular progress of the local disease, *it is generally the forerunner of consecutive symptoms.*"

The next disease in order, or what the author terms Venerola superficialis, he considers as only a variety of the preceding, and says, " that the difference between the two affections depends entirely upon the presence of constitutional irritation in that variety of which I am now speaking." We are informed too, which is strongly in confirmation of the connexion pointed out by the author between constitutional derangement attending the primary disease and consecutive affections, that he has never yet met with an instance of the present variety, that was not followed by such affections.

The remedies found most useful in the treatment of the constitutional symptoms of this disorder have been the lancet, purgatives, and diaphoretics. The applications to the sore have been sedative, or stimulant, according to the action in the part.

Of the succeeding disorder, Venerola indurata, or Ulcus induratum, the characteristic mark is " the base becoming of a cartilaginous hardness, unless the sore should be seated on the glans."

With respect to the cause of this disease, we are told, that although " in almost every instance it appears to be the immediate consequence of impure intercourse, yet the following cases shew that it is not always so, and that the application of gonorrhœa, or other morbid matter, generated by the person affected, may produce it." On examining these cases, we find them not entirely exempt from sources of ambiguity; but we do not mean to enter further, than we have already done, into this kind of discussion. The treatment may be inferred from what has been already said.

In an appendix on phagedæna and sloughing, we find little to praise, and nothing to censure, excepting the meaning which it has pleased the author to annex to the former term, which he chooses to regard as synonymous with ulceration in general. Now, we have hitherto (in common, we believe, with others) conceived it to mean a peculiar form of ulceration, " which spreads, and, as it were, eats away the flesh." But to correct our error, the author refers us to the etymology of the word, and the definition he has himself given of it. The latter favour is but giving us the choice of an appeal from the decision of Mr Evans to the decision of Mr Evans, by which, we take it, we shall not gain much. By the former, we learn that this word is derived from one which signifies to eat, which makes pretty clearly for our side of the question; and even had the etymology been against us, we should not have felt much in-

clined to surrender our opinion, having been taught, some time ago, by a very great master, "that the instances are very few indeed, (if there are, in truth, any instances,) in which etymology furnishes effectual aids to guide us, either in writing with propriety the dialect of our own times, or in fixing the exact signification of ambiguous terms, or in drawing the line between expressions which seem to be nearly equivalent." * When Celsus said, that in "φαγίδαινα" "minimé differendum, sed protinus iisdem medicamentis occurrendum est, et si parum valent, ferro adurendum," he certainly had not a common sore in view. But there has been enough of this; and we assure our readers that we should not have said so much about a trifling error in an author of considerable talent, whose book we think well worthy of being read and remembered, had we not noticed that he is singularly inclined to innovations with respect to language. Excoriatio is not Latin, but it is employed by Sauvages, and to his authority we willingly bow; but what shall we say of *venerola* and *venerolic?* Variola and rubeola are originally barbarisms, but time and authority have civilized them, and they are now universally admitted into the very best company; but we can discover no good reason, why we should be equally tolerant of these their still ruder progeny. Analogy would have made the adjective venerolous, but every thing like custom in language must be deviated from. Then we have repeatedly such phrases as "the *mean* nature employs," "every *mean* to be tried," (for *means,*) forms of expression now obsolete, if ever they have existed, among good writers; with whom, we are convinced, he is well acquainted. Indeed, it is evident that Mr E.'s faults of this kind are all intentional, for we have not lately met with any writer who excels him in *general* conciseness, simplicity, and perspicuity of language,—the only qualities worth regarding in the style of medical works.

It has not been with unmixed feelings that we have found ourselves called upon to censure so freely many passages of a work, the merits of which we think very considerable; and it is truly painful to us to be obliged, on still another point, to bestow on Mr E. language very foreign to our general feeling towards him. Is it from ignorance of the real state of the fact, or from a weak compliance with opinions, which never could be well founded, that we meet with such passages as the following? "Ulcers, which are not to be considered as the primary affection of syphilis, and which do not require mercury for their

* Stewart's Philosophical Essays.

cure;" "it differs from that ulcer (chancre) in some very material points—mercury, so far from being necessary to the cure, is in general hurtful." We shall not go on accumulating quotations. Every one that has bestowed the least pains on the investigation of venereal diseases in general, must know very well, that those which pre-existed to the voyage of Columbus, were treated, and successfully so, without the mineral, and there is no point connected with the history of the disease which appeared in Europe at the epoch of that voyage, more unequivocally expressed, than that it was remediable by medicines and means, of which neither mercury, nor any of the reputed specifics of syphilis, as guaiacum, or sarsaparilla, formed a part.

That a disease committed considerable ravages in Europe towards the close of the 15th, and at the beginning of the 16th century, is a fact for which we have undoubted historical testimony, and that it was to this, that the name of syphilis was given by Fracastorius, is equally unquestionable. Now, it is of this disease, syphilis, which is supposed still to exist, and of which we have been told by authors, certainly highly respectable, that it is to be carefully distinguished from others, because it requires mercury for its cure, that we assert, from the testimony of writers of note, contemporary, some with its appearance, all with its ravages, that it was remediable without a grain of that mineral. That the authors in question may have been deceived with respect to some obscure points, one of which we have already adverted to, connected with the disease, cannot serve in any way to invalidate their testimony, in a matter cognizable by their senses. The symptoms are detailed, cases are given, and the cure of the disease is proved upon evidence, as much to be depended upon as human testimony to any fact whatsoever can be. Yet, with the works of Vigo, Aquilanus, Grundbeckius, Gaspar Torella, Leonicenus, Massa, Fracastorius himself, and a host of others, contemporaries of the disease, when it existed in a most violent form, to prove, that whosoever should try, would find it yield without the mineral, have the medical men who engaged in this investigation been accused, because facts led *them* to the same conclusion, of confounding syphilis with its resembling diseases, and of ignorance or neglect of works familiar to every tyro in the art. That practitioners, in general, should have leisure to bestow on researches into the early history of a disease, is not to be expected; but when men who write on a subject oppose *opinions* to facts, we have a right to exact from *them*, that no pains be spared to ascertain their validity. How those now examined became prevalent in this country,—how it has happened, that, because a

remedy was found useful in a disease it was supposed indispensably necessary, we leave to the curious in such matters to investigate.

We now take leave of our author, and of the subject. If, in any of our remarks regarding him, we have displayed a little asperity, we can assure him, that it has not been prompted by disrespect for his character as a writer. Where we have differed from him, we have, from a sense of duty, expressed that difference; but we declare to him, and to our readers in general, that it has rarely been our lot to meet with more of valuable information in a small compass, than in his little volume, and we sincerely hope and believe, that the second part of his work will realize the promise of the first.

III.

Report from the Select Committee, on the Doctrine of Contagion in the Plague, pp. 102. Ordered by the House of Commons to be printed, June 14, 1819.

OUR readers will probably recollect, that, in the course of the last session of Parliament, Sir John Jackson moved for a committee to inquire into the expediency of abrogating or modifying the restrictions imposed by the quarantine laws; in which motion he was supported by the Right Honourable F. Robinson, President of the Board of Trade; and the reason assigned for this measure by Sir John Jackson was, that the doctrine of contagion had been shaken by evidence which came before a committee during the preceding Parliament, to inquire into the epidemic fever then prevailing in the metropolis. The principal objects of inquiry on the subjects in question were, *first*, Is the plague capable of being communicated from person to person, either by immediate contact with those diseased, or, intermediately, by contact with infected goods? Or, *secondly*, Is it an epidemic depending only on a peculiar state of atmosphere? We shall now give the Report in full, which is the result of their labours.

"Your committee being appointed to consider the validity of the received doctrines, concerning the nature of contagious and infectious diseases, as distinguished from other epidemics, have proceeded to examine a number of medical gentlemen, whose practical experience, or general knowledge of the subject, appeared to your commit-

tee most likely to furnish the means of acquiring the most satisfactory information. They have also had the evidence of a number of persons, whose residence in infected countries, or whose commercial or official employments, enabled them to communicate information as to facts, and on the principle and efficacy of the laws of quarantine. All the opinions of the medical men whom your committee have examined, with the exception of two, are in favour of the received doctrine, that the plague is a disease communicable by contact only, and different in that respect from epidemic fever; nor do your committee see any thing in the rest of the evidence they have collected, which would induce them to dissent from that opinion. It appears from some of the evidence, that the extension and virulence of the disorder is considerably modified by atmospheric influence; and a doubt has prevailed, whether, under any circumstances, the disease could be received and propagated in the climate of Britain. No fact whatever has been stated, to shew, that any instance of the disorder has occurred, or that it has ever been known to have been brought into the Lazarettos for many years: but your committee do not think themselves warranted to infer from thence, that the disease cannot exist in England; because, in the first place, a disease resembling, in most respects, the plague, is well known to have prevailed here, in many periods of our history, particularly in 1665, 1666. And further, it appears, that in many places, and in climates of various nature, the plague has prevailed after intervals of very considerable duration. Your committee would also observe, down to the year 1800, regulations were adopted, which must have had the effect of preventing goods, infected with the plague, from being shipped directly for Britain; and they abstain from giving any opinion on the nature and application of the quarantine regulations, as not falling within the scope of inquiry to which they have been directed, but they see no reason to question the validity of the principles on which such regulations appear to have been adopted."

We shall defer our remarks on this report until we have laid before our readers, as clear an abstract of the evidence before the committee as our limits will allow.

Dr Charles Maclean, who was first examined, states, that he has studied the plague in the Greek Pest-Hospital at Constantinople, in which he resided 17 days, and that, during his stay there, he himself caught the disease. The inferences supplied by his experiments on plague were sufficient to confirm him in those conclusions against the existence of contagion, which he had previously deduced in respect to yellow fever, typhus, and epidemic diseases generally.

After this sweeping conclusion, he thus modestly speaks of himself, and of his search after truth:

"If it should be thought that this is but an inadequate experience, I would entreat of the committee to recollect how little the value of

experience may be commensurate with its duration; and that the result of experience in the application of false knowledge, is but dexterity in the practice of error, which is as much worse than mere inexperience, as false knowledge is worse than absolute ignorance. Since the establishment of the doctrine of contagion, I am not aware that any other physician, now living, has been experimentally in such intimate collision as myself with what is called The Plague of the Levant;* and if the result of my researches should ultimately prove adequate to dispel, in respect to the cause of that malady, the darkness of centuries, they will not be denied to be of unprecedented efficiency."

He then goes on to assert, that the plague is not contagious, and being asked to explain how he caught the fever when in the Pest-Hospital, he replied, "by the air."

"It was in August, a month in which plague generally prevails most at Constantinople; I was a stranger to the climate and otherwise under particular circumstances; the deprivation of food, insufficiency of nourishment, and also some degree of irritation of mind, under the idea, that the people around me were endeavouring to frustrate my object; and all these might surely be sufficient to account for the occurrence of disease during the pestilential season, without supposing contagion."

Dr Maclean, in short, considers, that his having been affected with plague, must be attributed to the climate, short commons, and his being put out of humour; and that his having daily and hourly contact with patients labouring under an aggravated form of that disease, and living in the contaminated air of the hospital, had no share in its production.

Dr Maclean distinguishes contagious from epidemic diseases, by supposing that the former are capable of being communicated by contact, or contiguity, whereas epidemics are produced by such causes as are capable of operating simultaneously upon any portion, or the whole of a community, and that they cannot become contagious. He adds, that contagious dis-

* We do not exactly understand the force of this assertion. How many physicians may be now living, who have been in as intimate collision with what is called The Plague of the Levant as Dr Maclean, we do not know; and if none of them placed themselves in such a situation *experimentally*, we know that some did it *voluntarily*, and from the noblest motives that can influence human conduct. During our expedition to Egypt, the present President of the College of Physicians of Edinburgh, three several times, shut himself up in the lazarettos for months together, when the inferior officers to whom the duty was allotted were themselves infected, and rendered incapable of attending the sick. Nor did he escape with impunity, for he was twice affected with the disease, and certainly not from the causes to which Dr Maclean has ascribed his own illness.

eases occur only once during life; but on being asked if the small-pox be not a contagious disease, and whether it has not occurred more than once in the same person, he admits that it is contagious, but does not believe it ever has twice affected the same person, and, were he to see a case of second small-pox, he would distrust even the evidence of his own eyes, p. 13.* In defining the plague, he says, its phenomena embrace almost all the symptoms which the living body is capable of exhibiting, few of these, however, occurring at the same time, in the same person. He quotes Fra Louigi di Pavia, who attended a plague hospital for 30 years, and who says, the surest symptoms of plague are the eyes dusky and turbid, fixed and sparkling; the tongue forked, of a whitish colour, inclining to yellow, with the extremity red, which branches out in a number of small ramifications, exceedingly inflamed. He proceeds to describe, from his own experience, the appearance of the countenance:

"The skin and muscles of the face exhibit a tremulous appearance, and with a certain fierceness of the eyes, and sometimes an involuntary motion of one of the eye-lids, as in winking, gives an expression of rather a ludicrous wildness of aspect, increased by the efforts of the patient to preserve the composure of his features, as if conscious of the insubordination of his features to preserve their composure."

The appearance of the tongue varies from blackish to brown, white, and now and then flesh-red colour; he has also seen it of a glossy grey, *resembling the first formation of icicles upon water.* And this last state he considers as promising the most favourable termination. The brain and circulatiug system are variously affected in the earlier and milder stages of the plague. There is a rapid succession of ideas, hurried speech, a tremulous and unsteady walk, and a distracted look. The higher degrees are accompanied by delirium, anxiety, languor, and melancholy, as well as great muscular debility, throughout the disease. At the commencement, the bowels are usually constipated; but, in the progress of the disease, diarrhœa and hæmorrhage are not unfrequent symptoms, and, when severe, denote much danger. Dr M. adds, however, thatn one of those symptoms are pathognomic, nor does he consider them as very distinct from those of the severe form of typhus and yellow fever in other countries. He does not put much dependence on the glandular affections as diagnostic of plague, but thinks

* Syphilis also is a contagious disease, and nobody doubts that it can occur *frequently* during life.

the carbuncles are more decided marks of the disease, for buboes, he asserts, occur in typhus.* If these observations are correct, the inference, we think, must be, either that every fever is plague, or that nothing is plague.

During the prevalence of the plague at Constantinople, the Frank merchants shut themselves up in their houses, and, by so doing, they generally avoid the disease. But Dr Maclean attributes the success of this measure to their avoiding vicissitudes of atmosphere, by keeping their windows shut during the pestilential season. Speaking of the experiments of Dr White, he says, that gentleman first rubbed on his arm matter which was taken from a bubo of a person supposed to have the plague, by which he was not affected; he afterwards inoculated himself thrice in the arm with similar matter: that he was not affected by the two first inoculations, but, after the third, he sickened of the plague, and died: which circumstance, nevertheless, Dr Maclean does not attribute to the experiments previously made by Dr White, but considers as an accidental coincidence his being seized with the disease at that time.

On being asked his opinion on the utility of the Quarantine regulations, he replies, that he does not consider the establishment of Lazarettos of the smallest use, and he goes on to say,

"If it be true that there never has arrived at any one period of time any one person from the Levant, or any other place, actually labouring under the plague; and if it be true, according to the advocates for contagion, that goods, wares, and merchandise, can retain infection for seven, fourteen, or twenty years; it must be apparent, that, with respect to goods, as well as with respect to persons, a quarantine of forty days can be of no sort of use."

He states, on the authority of Dr Caruhanha, and of Dr Grieves, Superintendent of Quarantine at Malta, that no case of plague had occurred in the Lazaretto for fifteen years; nor, in the plague of 1813, was any officer of the Lazaretto affected by the disease. On being asked, if he was aware, that, in the towns of the East, the Turks suffer in a greater proportion than the Christian population? he answers, that he knows the fact to have been so represented by Christian travellers in the Levant; but that he considers this as a mere assumption; such travellers cannot possibly know any thing at all of the matter, except what is represented to them by Christians believing in in contagion, or by the superintendents of plague establish-

* Buboes occur *very rarely* in typhus, and only as sequelæ of the disease; they occur *very commonly* in plague, and always as a primary symptom.

ments; and that the want of bills of mortality amongst the Turks must render such inferences of no value. Yet, in his very next answer, he asserts, that the Turks, who have no belief in contagion, recover in much greater numbers from the plague than the Christians who entertain that belief; and this, he adds, is "confirmed by facts, and it is stated by various travellers."

From the above statement, it is sufficiently evident, that Dr Maclean asserts or denies, as he may find most convenient; for here he has first denied, and then believed, the statements of travellers; first stated the want of bills of mortality to be an obstacle in ascertaining the proportion of recoveries, and then has done it quite as well without them. The doctrine of contagion, according to Dr Maclean, originated in the Council of Trent: the Pope, desirous of removing the council to Bologna, having suborned Fracastorius and certain other physicians to circulate the report, that a malady had broken out, which spread itself rapidly from person to person by contact: and that the ancients had no idea of contagion. We have the following reasons given for believing that the plague is not contagious:

"1st, That this and all other epidemic diseases appear generally at certain seasons, and disappear at other certain periods, different in different countries. 2dly, They also cease generally at the time at which the greatest number of persons are affected, which seems wholly incompatible with the existence of contagion. And, 3d, Because they are capable of affecting the same person repeatedly, which there is no proof that contagious general diseases are capable of doing."

The epidemic season at Smyrna, as stated by Dr Maclean, is from March to June or July; at Constantinople, it begins in July or August, and ends in November or December;—and, if this be correct, we have thus two places, not far apart, the epidemic seasons of which, taken together, occupy ten months in the year. But it will be found, in the progress of this subject, that Constantinople is never totally free from plague.

This is the substance of Dr Maclean's evidence, which we have been tempted to give thus much at large, because he is the Goliah of the non-contagionists; but, to avoid going over the same ground again, we shall reserve our remarks until we have gone through the remainder of the evidence.

The next person examined was Dr Thomas Forster, whose answers were to the following effect:—That he has not any personal knowledge of the plague; but from such information as he has been able to collect, he considers it a contagious disease, rendered less so by ventilation; he believes buboes and

carbuncles to be the best diagnostics of this malady; he thinks the difference of our climate the principal cause of our exemption from plague, but does not regard our long immunity from plague as sufficient security against its recurrence if imported, since there might exist a state of climate and other causes to favour its production; he conceives that epidemics depend much upon a peculiar electric state of atmosphere. With regard to the possibility of an epidemic attacking the same person more than once, he says, that he is acquainted with a person who has had small-pox three times; he thinks Lucretius's opinions of the contagious nature of certain diseases as deserving to be noticed on the minutes of committee; and these we shall give presently in some extracts from the sixth book of his poem De Rerum Natura.

Dr James Johnson had served four or five years in the Mediterranean, where, although, he had not an opportunity of seeing the plague, yet he acquired information respecting its nature. He is of opinion that it is contagious, and that its activity depends much on a particular state of the atmosphere; that infected goods or merchandise may communicate the disease, but more particularly the clothes of diseased persons. He entertains this opinion on the authority of Dr Russell, and other authors who have described the disease; and the circumstance of its being an eruptive disease, strengthens that belief, as other diseases of that character universally arise from specific contagions or poisons. The malignant fevers of Trincomalee, Batavia, and Diamond Harbour, are not analogous to plague. *Epidemic diseases* may at first be produced by atmospheric influence, and afterwards be propagated by contagion. He thinks the return of plague is a revival of infection that has been latent or dormant, until a particular state of atmosphere rouses it to action. Dr Johnson well remarks, that the non-occurrence of plague in a Lazaretto, for fifty or an hundred years, is not a sufficient reason for doing away the quarantine laws; for although the climate of this country may be unfavourable to the production of plague, yet we do not know what share quarantine regulations may have had in our exemption from that disease.

Dr William Gladstone, when at Constantinople in 1806-7, saw cases of the plague in the months of December, January, February, and March. The origin of the disease he takes to be a diseased constitution of atmosphere, and deficient ventilation of the houses; and he attributes the plague of London in 1665 to similar causes. The absence of plague in this country he thinks cannot be attributed to our quarantine regulations, as they are very imperfect; and he does not suppose the contagion of plague ever to have been imported into the Lazarettos,

as there is not any instance of the expurgators having been affected. He adds, that epidemics may certainly become contagious.

Dr A. B Granville, who had seen the plague in Turkey, Greece, Asia, Syria, Egypt, &c. and in Constantinople, where he resided two years, describes the symptoms to be pretty generally these: Dizziness, great pain in the head, great prostration of strength, the nervous system very particularly affected, occasionally sickness of the stomach, and, invariably, the appearance of glandular swellings, with carbuncles, and other local or cutaneous symptoms, particularly livid spots on the body, if the disease goes beyond sixty hours. There are no symptoms of inflammation whatever, none, at least, such as attend inflammatory diseases during their first attack. He is ignorant of the cause, and only knows that the disease exists, and is spread by contagion. In Constantinople, Smyrna, Egypt, and Syria, the Franks, who can afford it, shut themselves up during the plague, and he never heard an instance of such persons being infected where the seclusion was perfect. Of course, this separation could not avail, if the disease was communicated by the air. In Egypt, this separation is continued until St John's day, June 24th, when the dew falls. Dr G. considers that the state of the air has no effect in checking the disease, except, perhaps, that it lessens the liability of persons to be affected by it. He understands that the plague has been carried from Aleppo, by caravans, to Bagdat, and Damascus: to the latter place it was carried by the army of some Pashwa, who had been on the coast to assist in the reduction of Jean d'Acre; that it has likewise been carried over land westward from Constantinople to Adrianople.

Dr Granville distinguishes contagion from infection, confining the former term to the communication of disease, by mere contact with a diseased person, or with something that has been in contact with him, whilst he limits the latter to receiving the disease through a contaminated atmosphere in a sick chamber. In support of this distinction, he mentions the following occurrence, which we shall give in his own words, as it bears directly on the object of the committee, and is very remarkable. "There is one instance in point amongst the most recent, and it rests on the highest authority." During the plague at Corfu, in 1815,

"one of the villages, which had been infected several months, had for some time, I believe 48 days, exhibited no sign of the plague, owing to the measure of segregation adopted by Sir Thomas Maitland. The village was reported to be released, and fumigation preparatory to its

receiving pratique ordered. The officer who had the surveillance of the village during the three or four months, had resided in the church, from there being no house that was not thought to be infected, in which church the priest and the people had been crowded just before the laws of segregation were ordered by Sir Thomas Maitland. Some of these died subsequently, for the church was ordered to be shut the instant the plague began. It was therefore necessary to purify this edifice before the people could go in again, and leave being granted for this purpose, the priest went in, and having touched the cloth of the great altar, so as to purify it by shaking it, he was seized with the plague, beginning with the headache, of such violence, that he fell on the steps of the altar, almost immediately; and in three hours, before he could be carried to the Lazaretto, he expired, with buboes under the arm, and livid spots over the body."

Dr Granville expresses his belief, that the poison, in this instance, was conveyed by touch alone, since the officers who had resided two months in this church were not affected. Since 1814, he says cases have occurred in the Lazaretto at Leghorn, where persons touching the infected part of bales of merchandise have been seized with plague. At Marseilles, a similar circumstance has happened twice in fifteen years, and, recently, according to the dispatches of Mr Hopner, the British Consul at Venice, in October 1818. During the prevalence of plague in the Levant, goods in general are not allowed to be shipped for England, and many vessels perform quarantine at ports in the Mediterranean, which lessens the probability of the contagion of plague having ever been imported into our Lazarettos: But the fact of the plague never having taken place here, for 154 years, or if for six or seven centuries, would not give the hope that it *cannot* exist in a British atmosphere, since we know it existed here in 1665.

John Green, Esq. is treasurer to the Levant Company, and resided in Constantinople from 1774 to 1780. In the year 1778, he witnessed a violent plague during the months of May, June, and July, which destroyed 200,000 persons. The most important part of his testimony, is that which expresses his disbelief, that goods cannot convey the contagion of plague; in support of which opinion, he mentions, that the clothes and bedding of persons dying of plague are commonly sold, and used without fear.

He states, that the disease may attack the same person frequently; that he knew an Abbé, of the French hospital, who acknowledged he had had it ten or twelve times. He has heard, however, that there is a particular kind of bubo called "*the Blessed*," which, when it occurs, renders the person much less liable to have the plague again, or if he should be afterwards

infected, the disease is slight. Mr Green conceives, that the dew which attends the hottest seasons has a powerful influence in checking the plague; and five years ago, Mr Morier informed him, that the plague which had begun to be prevalent, we believe, at Alexandria, ceased suddenly on the coming on of dense fogs, which fogs prevailed also in this country at the same time. The inhabitants of Constantinople believe, that exposing infected clothes for one night to the dew, has more effect in purification, than a similar exposure for a whole week in the sun. This last part, however, shews that apprehension does exist as to danger from this source. He would not recommend the abolition of quarantine laws, as the state of health of crews ought to be inquired into; and if the quarantine establishments of this country were abolished, no matter why, it might occasion the exclusion of our vessels from other countries.

"The Lazarettos of England are old men of war, with houses built upon them like an ark. The sides of these houses are open like a brewhouse, with shutters, and the floors are all open gratings in fact, so that the ventilation is excessive on board these vessels in Standgate Creek, greater than it is possible to give on any building on shore. The ships also swing with the tide; that is, when the tide turns, they change their sides to windward every six hours."

The mode of ventilation is different for different kinds of goods. Some articles, as goat's wool, if brought in a ship with a foul bill of health, are ordered to be entirely turned out of the packages, and exposed to the air. Bale goods are slit open on one side, and exposed for some time, which is then sewed up, and the other side exposed. The expurgators are ordered to thrust their arms into the bales as far as possible.

In Dr M'Leod's evidence, nothing important is added to what we have already stated.

Sir A. B Faulkner was Staff Physician to the forces at Malta, during the plague which occurred there in 1813. He considers that this disease is propagated by contact only, or close approximation to the person or thing infected. He gives numerous and decided proofs of the success which attends complete separation of the healthy from the diseased, and instances the public general hospital, public prison, one of the barracks, and all the convents, except one, and the introduction of the disease into this last could be accounted for. He did not perceive that changes of temperature had any effect upon the progress of the disease, but he observed, that a high wind, from whatever quarter it blew, was always accompanied with an increase of the numbers affected. The disease had certainly no connection with marsh miasmata, the part of the town the most subject to

marsh fevers, being less affected by plague than many others which were considered more healthy. In the treatment of the plague, camphor, calomel, and topical blood-letting by leeches, were tried, but the remedies found to be of the most service, were cold affusion and turpentine.

Dr Pym has no doubt that the plague is contagious, but not very actively so. He considers the fever which prevailed at Gibraltar in 1804, and which destroyed 6000 persons, out of a population of 20,000, to have been a more formidable disease than the plague. He thinks it probable, that the contagion of plague has never been brought into our Lazarettos, which he thinks may be accounted for, upon the supposition that the cargoes are packed by healthy persons, or at a time when plague does not prevail. Before 1813, however, the duties of the expurgators were negligently performed.

Sir James M'Grigor was at the head of the Medical Staff of the British Army which came from India up the Red Sea, and disembarked at Kossier in May 1801. This army was 7886 strong, of which 3759 were Europeans, and 4127 natives of India; there died of the plague 38 Europeans, and 127 natives of India, in all 165. The disease came on with fever, and buboes; the two first cases could not be closely traced, but the sufferers had been at Rosetta, where there were cases of plague; from these two, four more caught the disease, and all the six died. The disorder is contagious, but he has known instances of contact without any ill effect. There were many instances of its spreading by contagion, particularly one of a prisoner confined in the guard-house, who afterwards appeared to have the plague, which was thus communicated to the other prisoners, and the men on guard. The plague did not appear connected with miasmata, as it was met with in the progress of the army through Upper Egypt. And Sir James M'Grigor thinks it probable, that it always exists in some degree in Egypt.

Dr James Curry considers the contagious nature of plague to be clearly shewn by the order of its progress, and the protection afforded by segregation. He supposes it may be often generated anew; but that it requires for its existence a peculiar state of atmosphere, which he thinks greatly to depend upon electric influence. He believes it was first introduced into the Mediterranean by fomites brought from Jerusalem and Syria by the Crusades.

Dr Tainsh, Surgeon of the Theseus, was in the Mediterranean in 1798-9. He received on board his ship five cases of plague, some of them severe. One of them, that of a French-

man, had suppurating buboes, but recovered. These cases have been alluded to by Dr Pym. The disease appears to have been communicated by intercourse between two vessels at sea; but the circumstances were not inquired into by the committee, and the case is, therefore, rendered of no value.

Mr Edward Hayes, who is, we believe, a merchant, resided 44 years in Smyrna; during which time he frequently saw the plague. He speaks confidently of the security afforded by confinement within doors during its prevalence. At Smyrna, the disease generally begins in March or April, and ends in August at the latest; but great cold or heat commonly arrest it. He informs us, that goods are shipped at all times, whether the plague prevails or not; that the merchandise may, therefore, be infected; but that the time occupied by the voyage, and the state of the persons exposed to the contagion, are probably causes which prevent its taking effect in this country and many other places; that, abroad, the plague does at times affect the Lazarettos. The quarantine regulations in Holland do not permit any vessel from the Levant to enter, if the plague prevailed there at the time of her departure. He affirms, that plague is communicable by goods; all woollen and linen goods may infect; animal substances, particularly goat's wool, are more dangerous than vegetable. He has known the disease communicated by inoculation, but is not aware that vaccination has been tried as a security against plague. He adds, that the Turks have lately learnt the danger of preserving the clothes of persons dying of this disease.

The evidence of Sir Robert Wilson is only a repetition of what has been already stated by Sir James M'Grigor. Dr Nevinson, Dr Powel, Dr Frampton, and Dr Ash, profess not to have seen any cases of the plague, but they all agree in believing that it is contagious, both as regards persons and merchandise. The evidence of Dr Latham is to the same effect; and, in the examination of this gentleman, a strong leaning of the examinants to one side of the question, which we think has been rather injurious to the whole of this investigation, is more than usually conspicuous.

Dr Frank saw frequent cases of plague, whilst with Sir Ralph Abercrombie, in the year 1800, at Aboukir. He could distinctly trace its progress, by contagion, from one person to the sick and hospital attendants, who afterwards became infected; whilst none of the wounded, who were in a separate hospital, about half a mile from the former, had the disease. He has seen several instances of contact with impunity, and has himself handled plague patients. His opinion is, that the plague of

London in 1665 was imported, and that circumstances might arise in this country favourable to its existing again.

Dr Harrison has not any doubt of the highly contagious nature of plague; he believes it to be typhus, with the ordinary symptoms more severe, and with the addition of broad purple spots, buboes, and carbuncles. He was at Naples whilst the plague raged, in 1816, at Noya, 150 miles from thence; and, in 1817, there was a contagious and very mortal fever at Naples, supposed to be the plague. Dr Harrison is of opinion that the quarantine laws are useful, but that they might be modified as to persons; and he mentions a fact, which is very important,—that while passengers, who have made a long voyage, are liable to perform quarantine, couriers, who come in the least possible time, are not under such restrictions. The next person examined was Mr John Jenkins, a pilot of the port of Liverpool, who says, that, in eleven years, he never knew any one ill on board of the Lazaretto, and that there is a surgeon who attends every day.

We come, lastly, to Dr John Mitchell, whose opinions respecting contagion are precisely those of Dr Maclean; for which reason, and because a large part of his evidence is founded more upon the opinions of others than his own observation, our abstract of his testimony will be short. He tells us, that Desgenettes and Larry, the chief physician and surgeon of the French army, exposed themselves to the plague, without taking the disease; and Desgenettes shewed Assalini two punctures which he had made on himself, without effect, with a lancet dipped in the pus of a plague buboe. M. Assalini was told by Citizen Martin, captain of the Lazaretto at Marseilles, who for thirty years held that post, that, during that time, he had seen emptied some millions of bales of cotton, silk, fur, feathers, and other goods, coming from several places where the plague raged, without having seen any accident therefrom to the persons employed. Dr Mitchell classes the plague with malignant fevers, and mentions that Assalini does the same. Dr Mitchell lays much stress upon his experience when resident clerk in the Infirmary of this place; from which he concluded that the fever he then saw was not contagious. His opinion, promulgated in his inaugural dissertation, was at that time almost universally considered as heterodox. At any rate, it is completely overthrown by the experience of the late epidemic, during which a succession of matrons, nurses, and resident clerks, in both hospitals, have been infected, with scarcely an exception.

Dr Maclean comes again before the committee, and this second testimony concludes their volume. He amends his defini-

tions of epidemics, contagion, and infection, and adds fourteen reasons more to those already given for his want of faith in the doctrine of contagion. But we have neither room nor inclination to go deeper into the discussion of his views.

We have now furnished our readers with the substance of the examinations before the Committee of the House of Commons; and that our abstract is not more clear, has arisen from the very desultory manner in which the inquiry was conducted. The number of medical men examined was nineteen; only two of whom, Dr Maclean and Dr Mitchell, deny the contagious nature of the plague. The non-contagionists are, consequently, to the contagionists as ten to one. But we feel confident that, in point of fact, the disproportion generally is much greater; and if the committee had extended their examination to the whole of the faculty of London, it is our conviction they could not have raised more than one recruit for Dr Maclean, perhaps not one; for we do not believe that Dr Robarts, who, it appears, first made infidels of the Right Honourable President of the Board of Trade, and the Honourable Chairman Sir John Jackson, is at all prepared to go the same length with Drs Maclean and Mitchell in this heresy.

That the plague is highly contagious is, perhaps, the only inference that can be much relied upon, which results from the labours of the committee. The conflicting assertions as to facts, and the various opinions deduced from similar facts, are, at first sight, not calculated to leave a favourable impression as to the value of medical science; but the numberless sources of error which perplex such investigations, are only known to those who have long applied to them. For our opinion on the general question, Whether typhus and other fevers are contagious? we shall refer to former numbers of our Journal.* That contagion was a lamentable feature in the epidemic fevers which have recently afflicted Britain and Ireland, is so evident, that we cannot comprehend the organization of that man's mind who doubts, and still less his who denies it.

With regard to the frequent allusions, in the evidence which we have just examined, to the opinions of the ancients on contagion, we do not think them of much value; for it is not sufficient to know that they believed in contagion, unless we are in possession of their reasons, which we cannot know while we are ignorant of the diseases they describe: For example, Whether the plague of Athens, described by Thucydides, was the

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* See our Reviews of *Dr Barker's Report*, &c. in our 58th Number, and of *Dr Stokes on Contagion*, in No. 59.

disease now called Plague, is very doubtful; we think it more probable the plague of the present day was then unknown, as Herodotus, who was the contemporary of Thucydides, makes no mention of the plague when describing Egypt, though he has said much of the climate, and mentions, that, at particular seasons, the Egyptians were habituated to taking emetics and cathartics for three successive days, in each of the months they considered the most unhealthy; and it is not to be supposed that so accurate an historian could omit so remarkable a feature as the plague has since formed in the natural history of that country. Lucretius, who wrote about 350 years later, and who was in those days what Armstrong the poet has been in ours, has powerfully and beautifully described a pestilence, from which we are tempted to give the following short extracts, to shew that, 1500 years before the Council of Trent, in addition to a knowledge of endemics and epidemics, contagion was allowed to have its share in the spreading of the disease.

" Nam quid Britannis cœlum differre putamus,
Et quod in Ægypto est, qua mundi clandicat axis?
Quidve quod in Ponto est, differre et Gadibus, atque
Usque ad nigra virum, percocto sæcla calore?"
LUCRET. *de Rerum Natura*, Lib. vi. l. 1104.

" Est Elephas morbus, qui propter flumina Nili
Gignitur Ægypto in media, neque præterea unquam."
l. 1112.

" Et, cum spiranteis mistas hinc ducimus auras
Illa quoque in corpus pariter sorbere necesse est."
l. 1137.

" Quippe et enim nullo cessabant tempore apisci
Ex aliis alios avidi contagia morbi."
l. 1234.

" Qui fuerant autem præsto, contagibus ibant
Atque labore."
l. 1241.

The belief that the plague is contagious, is not in the least invalidated by the fact that many persons have escaped after an exposure that might have been expected to produce infection, since the same may be urged against small-pox, which Dr Maclean admits to be a contagious disease; and he must also admit, that, whilst many who are exposed to that contagion contract the disease, there are likewise many who do not; a remark which applies also to inoculation in both. The question has been repeatedly asked, Whether our long immunity from plague were sufficient ground for abrogating the quarantine laws? But it will be seen, that, although the island of Malta is, from many causes, much more exposed to this infection than

Britain, yet it was 138 years free from plague, and we have exceeded that period only sixteen years. The danger of altogether abolishing quarantine regulations is great and obvious; but, at the same time, we have no doubt they might be amended, and rendered less inconvenient to commerce.

We shall conclude by giving a Table, which will place in a forcible light the contrariety of opinion amongst the persons examined by the Committee.

	If contagious.	If contagious by Goods.	If Quarantine is of use.	If an eruptive Disease.	If the Plague of 1665 were true Levant Plague.	If from personal Observation.
Sir J. M'Grigor	Yes	Yes	Yes	Yes	Yes	Yes
Sir B. Faulkner	Yes	Yes	Yes	Yes	Yes	Yes
Dr Pym	Yes	Yes	Yes	Yes	Yes	No
— Granville	Yes	Yes	Yes	Always	Yes	Yes
— Powell	Yes	Yes	Yes			No
— Ash	Yes	Yes	Yes			No
— Latham	Yes	Yes	Yes			No
— Frank	Yes	Yes	Yes			Yes
— Frampton	Yes		Yes	Yes		No
— Harrison	Yes	Yes			Yes	No
Mr Hayes	Yes	Yes				Yes
Dr Tainsh	Yes			Yes		Yes
Sir R. Wilson	Yes					Yes
Dr Johnson	Yes	Yes	Yes	Always	Doubtful	No
— Forster	Yes	Yes	Yes	Yes	No	No
— Gladstone	Yes	Yes	Yes	Generally	No	Yes
— Nevinson	Yes	Yes	Yes	No	Yes	No
— M'Leod	Yes	Yes	Doubtful	Yes	Yes	No
— Curry	Yes	Improbable	Yes		Yes	No
Mr Green	Yes	No	Yes	Yes	Yes	Yes
Dr Maclean	No	No	No		No	Yes
— Mitchell	No	No	No	No	No	No

IV.

On the Mimoses; or a Descriptive, Diagnostic, and Practical Essay on the Affections usually denominated Dyspeptic, Hypochondriac, Bilious, Nervous, Chlorotic, Hysteric, Spasmodic, &c. By MARSHALL HALL, M. D. F.R.S.E. Author of a Treatise on Diagnosis, &c. 8vo. pp. 176. London.

DR HAMILTON and Mr Abernethy have, of late years, called the attention of the profession, in a particular manner, to

those multitudinous affections of the system at large, and of different organs in particular, which result from a deranged condition of the contents of the intestinal canal, or of the functions of the chylopoetic viscera. Dr Wilson Philip, * and Dr Ayre, † have also contributed to extend our knowledge of this important subject.

Dr Hamilton shews the analogy and connection between a constipated and loaded condition of the intestinal canal and dyspepsia, the marasmus of children, chlorosis and hysteria, and traces to this source some affections of the head, palpitation of the heart, hæmatemesis, and discharges of blood by the anus. Mr Abernethy has clearly demonstrated the connection between disorders of the chylopoetic functions, and various affections of the head, chest, abdomen, skin, &c. Dr Philip and Dr Ayre have pursued similar paths of investigation, and the profession have long been promised a work on the same, or on a similar subject, from the pen of Dr Curry, the well-known lecturer at Guy's Hospital.

In the volume before us, Dr Hall intends to collect and embody, as it were, the system of facts belonging to this department of pathology.

Under the generic title *mimoses*, Dr Hall has grouped together several diseases, which he conceives to be of the same nature, to arise from the same causes, and to yield to the same remedies, although disjoined in our artificial systems of nosology, or altogether omitted. They are characterized by being "complex, multiform, and changeable, and by *imitating*, from the appearance and predominance of particular symptoms in particular instances, other diseases very different in their nature." In this definition, we wish that Dr Hall had employed the term *resembling* instead of imitating, which implies volition or agency. For the same reason, we think he has been unfortunate in the choice of his generic name, *Mimosis*, for this Protean class of diseases, because, by conveying a false idea, it has prevented his views from being so obvious or easily understood.

The volume is divided into five chapters, each of which is allotted to a very minute, but at the same time relatively concise description of the different species of this affection which he has recognized. The first is *Mimosis acuta*, or acute disorder of the digestive organs; the second *M. chronica*, is dyspepsia; the third, *M. discolor*, is chlorosis, which frequently origi-

* Medico-Chirurgical Transactions, Vol.
† Practical Observations on Marasmus.

nates in the first species; the fourth is *M. urgens*, or hysteria, the connection of which with derangement of the bowels is universally acknowledged; and the fifth, *M. inquieta*, which has no nosologic appellation, seems, in our author's opinion, to arise from disordered bowels, conjoined with exhaustion, or some great shock or irritation.

Each chapter, except the last, is divided into three sections. The first contains a *description* of the affection itself; the second traces its various *complications* and their *diagnostics*; and the last details the *treatment*. The numerous complications of these affections strike us as having been investigated with particular pains and industry, and discriminated with great care and attention.

The first chapter on the mimosis acuta occupies nearly half the volume, shewing the importance which the author ascribes to this particular species. He divides it into two varieties.

"7. In order to facilitate the description, the Mimosis Acuta will be considered under two forms, differing only in degree,—in the greater or less severity of its symptoms in general, and in the presence or absence of some of the severer symptoms. These two forms of course admit of all intermediate shades.

"8. The Mimosis Acuta, even in its severer forms, comes on insidiously, and the patient gradually becomes incapacitated for business or his usual exercise; the less severe form occurs more gradually and insidiously still.

"9. The severer form of the Mimosis Acuta is early and principally characterized and distinguished by the concurrence of the following symptoms; namely, *weakness, tremor, fluttering, faintishness, tendency to perspiration, susceptibility to hurry and agitation, and loss of flesh.*

"10. The countenance is rather pale and thin; the lips are pale, and, with the chin, frequently tremulous, especially on speaking; the surface of the face is generally affected with an appearance of oily, clammy, and swarthy perspiration, especially near the nose; there is a loss of colour, and usually a degree of sallowness and darkness of the complexion in general, but principally about the eyes.

"11. The tongue is almost invariably loaded:—sometimes only slightly, whilst its edges are clean and red;—at other times it is more loaded, swollen, and œdematous, formed into deep sulci or plaits, and marked by pressure against the contiguous teeth, the inside of the cheeks being also impressed in the same manner; the papillæ of the tongue are numerous and enlarged; the gums red and swollen; the teeth and the mouth in general foul, and the breath loaded and fetid;—in a third instance the tongue may, however, be clean, but lobulated, whilst the internal mouth and breath are little affected. The first state of the tongue is observed when the affec-

tion has not continued long; the second, when its accession has been particularly slow and gradual; and the third, when a similar, but chronic state of disorder has long subsisted, and has, at length, been succeeded by the Mimosis Acuta.

" 12. There is a tendency to perspiration on slight exertion, or any surprise, and, sometimes, in the night, or early in the morning; the skin is in general cool, rather moist, and clammy. The hands are apt to be cold; and the nails occasionally assume a lilac hue.

" 13. The patient is usually affected with great tremor, observed on holding out the hand, on carrying a cup of tea, for instance, to the mouth, on attempting to stand erect or walk, or on being fatigued or hurried. The patient is liable to experience faintishness in the upright position if sustained for a little time. And he feels unaccountably feeble and weary.

" 14. There is an early and daily loss of flesh. This, as well as the restoration of flesh during recovery, may be ascertained by weighing, as exemplified in some of the cases of this affection to be given hereafter.

" 15. The patient experiences headach and vertigo, and he is nervous, and easily hurried and agitated. There is sometimes heaviness for sleep; sometimes great wakefulness and restlessness. There is almost universally a peculiar sense of fluttering about the heart and pit of the stomach. And there is frequently an acute pain in some part of the course of the colon.

" 16. The appetite is generally much impaired, and there is often loathing of food; but sometimes the appetite is even greater than natural, and there is almost constant craving. The digestion is various, being sometimes quick, and at other times attended with great sense of load, distention, flatus, eructation, hiccough, and even vomiting. The bowels are at first constipated; afterwards constipation and diarrhœa alternate, and sometimes the latter symptom becomes nearly permanent: the motions, during the constipation, are small, during the diarrhœa, scanty, extremely fetid, dark-coloured, often accompanied by blood, and frequently attended by tenesmus.

" 17. The urine is extremely loaded in the commencement of the Mimosis Acuta, but may become perfectly transparent during its continuance; it is often high-coloured, and like the other symptoms the appearance of this secretion is very liable to change.

" 18. Besides the symptoms just enumerated, there are others which prevail more or less in almost every case; but they are on the whole less constant and more diversified; and of these, one sometimes predominates so much over the rest, as to engross the attention of the patient and sometimes of the practitioner too exclusively. The secondary affection is then considered as idiopathic, and the symptom is apt to be treated as the disease. It is therefore of the utmost importance to present the reader with the following distinct enumeration of these symptoms:—

1. *Headach, Vertigo, Stupor, &c.*
2. *Cough, viscid expectoration.*
3. *Paroxysms of oppressive dyspnœa.*
4. *Palpitation of the heart; frequency and irregularity of the pulse.*
5. *Frequent and violent hiccough, vomiting of food.*
6. *Some convulsive and spasmodic affections.*
7. *Pain in the epigastric, or one or both of the hypochondriac or chondiliac regions.*
8. *Constipation, diarrhœa, tenesmus,*
9. *Melœna,*
10. *Icterus.*
11. *Severe pains of some of the limbs.*

"22. In the less severe form of the Mimosis Acuta, the debility, tremor, loss of flesh, and tendency to faintishness and perspiration, § 9, are less observed, although perhaps not altogether absent.

"23. In this form of the Mimosis Acuta the countenance is rather sallow, and its surface is more or less affected as in the severer form described above. The tongue and the internal mouth are often affected in the severe degree described, § 11. The patient is incapable of pursuing any laborious employment. He is prone to perspire from a slight exertion. He perhaps experiences some loss of flesh. He is low spirited and listless. The appetite is sometimes impaired, but sometimes craving. And he suffers from the symptoms described §§ 15, 16, 17, and from the complications enumerated § 18, only in a milder form than the subject of the severer case of Mimosis Acuta.

"24. Besides the symptoms enumerated § 18, the less severe and more continued form of the Mimosis Acuta, is sometimes attended with one of the following affections:—furunculi, paronychia, hordeola, purpura, erythema nodosum, ulcerations or pustules with inflammation of the conjunctiva, a general decay of the teeth."

"105. The most general cause of the Mimosis Acuta is *sedentariness.* This affection is therefore frequently observed in persons of studious habits, or of sedentary and inactive occupations; it has occurred particularly in literary persons, in persons engaged in the sedentary employments of the lace-frame, the stocking-frame, the tambour, &c. in tailors, and in women.

"106. *Watching, fatigue, anxiety, errors in diet, confined and impure air, and want of cleanliness,* are also accessory causes of the Mimosis Acuta. This affection has sometimes appeared to have been immediately induced as an effect of repeated *colds.* It has been particularly frequent during the present hot summer of 1818. And it has occurred from alarm, or accident."

This long quotation will give our readers an idea of the style and manner of the work; they will doubtless recognize in it the description of a form of disease they have themselves repeatedly seen.

We pass over, too, the second chapter, which presents a short description of the character, diagnosis, and treatment of dyspepsia.

After the first, the third chapter is the most original and important. Under the designation of Mimosis decolor is comprised the affection termed chlorosis, together with some other disorders accompanied and denoted by morbid appearances of the colour or complexion. We are informed that it was at one time the author's intention to publish "*Representations* of the complexion, tongue, tinge of surface, and of the hands." We cannot regret this intention, although we very much doubt that it could have been executed in a manner at all satisfactory, for to this cause we probably owe, in a great measure, the very minute and graphic *descriptions* on these points, which occur in the present volume.

We must pass over altogether the chapter on the Mimosis urgens, or hysteria; which contains a very complete account of this affection, in its multitudinous and Protean forms, although it scarcely fills a score of pages.

The fifth chapter, on the Mimosis inquieta, is worthy of being more developed; because this is an affection not sufficiently known in medical writings.

Dr Hall deals very little in speculation. The little theory contained in this volume occurs in the "concluding observations," which we quote.

"320. Too much praise cannot be conferred on those members of the profession, who have so well elucidated the nature and treatment of some of the subjects of the preceding pages. There is no doubt, indeed, that this investigation of the Mimosis was suggested to me by what I have learnt from the invaluable labours of Dr Hamilton, Mr Abernethy, and other respectable writers. My situation in Nottingham, however, has been a principal cause of fixing my attention on a Class of Disorders, of which the usual causes are sedentariness and confinement. This town, so celebrated for its manufactories of cotton stockings and lace, embraces a very extensive population, a great majority of which,—men, women, and children,—are engaged from morning till evening, in the numerous sedentary occupations which these manufactories imply,—deprived of the salutary influence of pure air and gentle exercise.

"321. To these numbers, which are peculiar to my situation, must be added the sedentary amongst the remaining part of the population,—the literary, persons of a delicate mode of life, females in general, tailors, mantua-makers, and the youthful inhabitants of the schools.

"322. Nor is sedentariness the only cause of the Mimoses, the operation of which is peculiarly frequent amongst the poor of Notting-

ham. I have noticed the frequent occurrence of the Mimosis Decolor in cooks and housemaids. The same remark applies equally to those persons who are much engaged in 'ironing,' and, of consequence, much confined to an atmosphere overheated by stoves for the purpose of quickly drying the articles subjected to this process.

"323. To this view of the causes of the Mimoses, peculiar to a manufacturing town, may be added the baneful influence of a confined and impure atmosphere, and an indigestible and poor diet,—an influence which we learn to estimate more perfectly, by adverting to the impediment they afford to our attempts to cure, and to the beneficial effects of the country air and exercise, with a proper and nutritious diet.

"324. A certain activity of the body would appear to be necessary to insure the peristaltic movements of the intestines, and, in consequence, the propulsion of their contents. During sedentariness, these movements are probably retarded, the alvine evacuation becomes more scanty or less frequent, and the intestines remain loaded.

"325. From this loaded state of the bowels, their functions, and those of *all* the chylopoetic viscera, most probably become deranged. The alvine contents become disordered merely by delay; and their presence induces, in its turn, a disordered state of the functions,—secretions or actions,—of all the organs contributary to digestion, and at length of other organs more remotely situated in the animal frame.

"326. The functions of the parts within the *mouth* become first obviously disordered. The secretions become morbid; the tongue becomes loaded and swollen; the gums red and tumid; the breath tainted; and the saliva sometimes profuse and offensive. The *complexion* and the *skin* become morbid, and there are the appearances observed in the Mimosis Acuta, or the Mimosis Decolor. The condition of the complexion and skin varies with the state of the original disorder, and with that of the tongue and internal mouth, of which it affords, indeed, an *index*. With the state of the mouth and skin, that of the secretions and other functions of the whole course of the *alimentary canal* and the contributory digestive organs,—the *liver*, the *pancreas*, &c. may be *presumed* to be all morbidly affected. Digestion is variously deranged; the contents of the bowels become unnatural; and thus *reciprocally*. According to the state of things, nutrition is impaired, or the sensations are uneasy and painful.—To term these disorders stomachic, intestinal, hepatic, or bilious, would alike afford partial and inadequate views of this comprehensive subject. As co-existent or subsequent links of this chain of sympathies, the functions of the *brain*, *heart*, *respiration*, *stomach*, *intestines*, *uterus*, *bladder*, *&c.* become variously affected. The *muscular system* and the *senses* also suffer in different instances. And nutrition, absorption, and secretion, are impeded or impaired.

"327. From this view of the subject, the character of the *Mimoses*, § 1, may be deduced. And the recurrence of this word leads me

once more to apologize for the introduction of a new denomination for these diseases. I have been induced to adopt this term, first, to prevent a great deal of circumlocution; and, secondly, because I could find no other in use, which was not objectionable from implying some hypothetical view of the subject. These motives, I trust, will appear sufficient to justify the innovation. I can at least conclude in the words of Morgagni,— "Longe mihi potior cura est veritatis quam novitatis."

We have been obliged to pass over the several sections on the complications and diagnosis, and on the treatment of the different forms of the mimoses; but we ought not to do this without observing, with regard to the former, that they are necessary to complete the description; that they concur in presenting that extension of the views of Dr Hamilton, Mr Abernethy, &c. to which we have alluded in the commencement of this review; and that they furnish many valuable and original observations on the discrimination of these affections, of the utmost importance to the medical practitioner. With respect to the practice, although this part certainly does not present much of novelty, yet the plan or mode of treatment proposed appears in every part judicious; and the observations on diet, sponging, sleep, &c. and on the remedies for the local affections or other complications, deserve an attentive consideration.

V.

An Enquiry illustrating the nature of Tuberculated Accretions of Serous Membranes; and the Origin of Tubercles and Tumours in different Textures of the Body. With five Engravings. By JOHN BARON, M. D. Physician to the General Infirmary at Gloucester. 8vo, pp. 307. Longman and Co., London, 1819.

THIS is a highly important work. It contains an accurate and circumstantial description of a very painful chronic affection of the abdominal viscera, of which no systematic account has hitherto been given, although isolated cases of it are to be found in the works of the older writers. But this is not all. On the subject of tuberculous and other morbid growths, it unfolds original views, which promise to shed new light on the whole range of those obscure chronic diseases usually denomi-

nated cachetic, and to add materially to the science of general pathology.

In point of fact, Dr Baron has combined a pathological with a strictly practical treatise; a species of combination which we always look upon with pleasure. At the present day there seems to be a disposition, in the profession at large, to undervalue matters of doctrine, and to study only the naked results of experience, unadorned by any speculative opinions whatsoever. Such a disposition, we own, is very praise-worthy in the majority, and, to a certain extent, very favourable to medical improvement; yet, on the other hand, it is highly expedient that some adventurous intellect should now and then rise up amongst us, fitted as well for the task of combination as for that of observation, and gifted with the power not only of recording facts, but of eliciting from them scientific views, or of engrafting upon them fundamental principles. Unless this be done, unless the elements of experience be made available to the establishment of rational theory, the healing art, divested of its rank as a science, must in the end be reduced to mere *tact* and empiricism, and be devoted, like the "medecine expectante" of the French, to the short-sighted purpose of prescribing for symptoms, without any ulterior consideration, either of the proximate cause, or probable consequence, of any given disorder.

Whoever examines the reigning pathological doctrines, so far as they influence modern practice, must readily discover three distinct sects, or classes, into which the medical world is at this moment divided. One class believe that the liver is of transcendent importance, both in health and disease; and that almost all maladies are owing, more or less directly, to derangement of its functions or structure. The next, and by far the greatest number, maintain that every ailment, whether acute or chronic, is caused by some disturbance or loss of equilibrium, in the vascular system, such as undue quantity, preternatural velocity, or increased momentum of the circulating fluid, or their contraries. Thus every morbid symptom is referred to increased or diminished action of the sanguiferous system. The third sect is, we believe, very inconsiderable in point of numbers; but their deficiency in this respect is made amends for, partly by the zeal of their leaders, and partly by the credulity of their youthful proselytes. According to them, it is neither to the liver, the digestive organs, nor yet to the circulating system, that we are to ascribe all diseases, but to *the nerves*; and especially to their organic center the spinal cord. Let the disease be typhus or tetanus, asthma or enteritis—no matter!—it is equally account-

ed for, on their hypothesis, by the morbid state of the nerves of the part affected, which are assumed to be irritated at their origin by sanguineous determination and congestion, because a few hours after death (we should say from the effects of venous gravitation in the supine position of the corpse) they betray unusual vascularity at their exit from the vertebral column!

Since every texture and almost every organ of the body thus enjoys its share of consideration, it strikes us as not a little remarkable that the lymphatic absorbents have hitherto been excluded from the researches of our pathologists. Of the impropriety of this exclusion we took occasion to express our sentiments last year, when examining the very able work of Dr Parry;* and subsequent reflection has only tended farther to confirm us in our opinion. One might almost imagine that the lymphatics enjoy a sinecure in the animal economy, when they are not only thus overlooked, but when we find Professor Magendie, one of the best informed physiologists of the day, denying even the absorbing power which has heretofore been, by common consent, ascribed to them!

Dr Baron has now supplied this unaccountable defect in pathology. He has demonstrated, by such evidence as the nature of the subject admits of, that many chronic and cachetic disorders have their primary source in the lymphatic system and its appendages. Not that he objects to the received doctrines of disease in a general way: he only contends that when they are unjustifiably extended, or too exclusively applied, they cramp our inquiries, and sacrifice to fond illusions of simplicity, that comprehensiveness which truth and nature require. After this general statement of Dr B.'s principles, we shall proceed to examine his volume more particularly.

The first part of the work is occupied with an account of that chronic abdominal disease we formerly alluded to. It appears to be of a most insidious and fatal character: and unless prevented or arrested in the early stage, by the vigorous use of remedies, it soon arrives at a height which all the resources of our art, though ever so skilfully directed, cannot cure.

Dr Baron seems to think that it is not of rare occurrence; and that it affects females more frequently than males. It generally comes on with tenderness and distention of the abdomen, together with nausea and vomiting; bowels for the most part costive, but frequently loose.—At this stage the nature of the disease is seldom suspected, and, consequently, the oppor-

* Ed. Med. and Surg. Journ. Vol. XV. p. 113.

tunity of doing good is too generally lost. The progress of the affection is described as follows:

"The bowels become more and more irregular in their action. The tenderness and swelling increase. The appetite fails: the pulse acquires greater velocity: the features look sharp and contracted: the countenance becomes pale or sallow: the lips parched and skinny: the tongue, sometimes of a bright colour, resembling what is seen in diabetes: at other times it is covered with a thick whitish mucus. The flesh and strength decay rapidly; and I think I have seen greater emaciation in this disease than in almost any other. The skin, except towards the last stage, is for the most part dry and scaly: the urine small in quantity, occasionally clear, more frequently otherwise. If a cough has not existed from the beginning, it is very apt to occur about this time; but this is by no means to be considered as a diagnostic symptom: its existence depending, as will hereafter be shewn, upon the spreading of the disease to the pleura, and the thoracic viscera." p. 19.

The author goes on to inform us, that, if the abdomen be carefully felt at this period, it will communicate to the touch the sensation occasioned by a solid tumour. And this tallies exactly with the feelings of the patient, who, when racked with the excruciating pain that attends the ulterior stages of this complaint, frequently exclaims that all his bowels are bound up together as it were "in a napkin." In addition to this violent pain, a "*broiling heat*" at the stomach is very frequently complained of; and there is an insatiable desire for liquids, although they are often rejected by vomiting. In some cases the matter ejected from the stomach, for several days before death, is stercoraceous. In several instances serous effusion into the cavity of the abdomen takes place to a greater or less extent; but when the fluid thus collected is drawn off by tapping, the relief that follows the operation is by no means considerable. On the contrary, in two or three hours the broiling heat and pain of the abdomen return: all the bad symptoms are henceforward exasperated, and the patient expires in a state of the greatest misery and exhaustion, obviously from the disease having attacked, and, in the end, completely blocked up, the channels of nutrition; namely the chylopoetic organs.

We shall subjoin his account of the appearances on dissection in one case. It may stand as a specimen of the whole, and illustrates very forcibly the nature of this disease.

"On opening the belly, it was found that the whole of its contents adhered to each other, and to the cavity, in such a manner as to form apparently one solid mass. None of the viscera could be distinguished till the thickened layers of the peritonæum were torn

from their adhesions. It was absolutely impossible to do so from the intestines, for there the thickening and adhesions had proceeded so far as to render any attempt at unfolding them impracticable. The intestine itself had undergone a remarkable change: after peeling carefully the thickened and granulated peritonæum from a portion of its surface, it was found to have been deprived of its healthy texture. It had lost its tenacity, and it appeared like a thin transparent membrane, which had been macerated in water; and it tore on the slightest violence being applied to it. The mesentery and its glands were in a very diseased state. The latter were about the size of almonds, and had much of the same appearance when cut into." p. 25.

We ourselves met with a case of this disease a few years ago, and were somewhat puzzled at the time to what class to refer it. The symptoms before death and the appearances on dissection corresponded pretty accurately with those which Dr Baron has enumerated. On looking into our notes, we find it stated, that the intestines were so deformed and bound together, that it was not till after studying the relative situation of the parts, that we were able to tell the different portions of the canal from each other. The omentum was thick, indurated, knotty, and glistening, and greatly resembled a confused mass of diseased cartilage. The mesentery also was greatly changed: it had been converted into a solid semitransparent mass, nearly two inches in thickness. The mesenteric glands were very much enlarged, and otherwise diseased.

Dr Baron is firmly convinced that this agglutination of the abdominal contents is entirely of a tuberculous character, and is not caused by inflammation, acute or chronic; for although pain is severely felt at all periods of the disease, it did not, in any of the cases he saw, appear to be the result of well ascertained inflammatory action. Indeed, he gives proofs that inflammation only supervened as a consequence, not making its appearance until change of structure, both in the peritonæum and mesentery, had proceeded to a great extent. For these proofs, however, we must refer to the work itself.

The complaint with which this disease is most liable to be confounded, is ascites; but the diagnosis may be founded with sufficient accuracy, upon the sense of *broiling heat* in the stomach, the nausea, retching, and extreme emaciation which always attend the tubercular accretion of the peritonæum. The inconsiderable and fleeting relief obtained from tapping, forms also another diagnostic mark of great consequence.

In the treatment, Dr Baron has used a great variety of remedies, such as general and topical bleeding, blisters, purgatives, and opiates; but the relief they afford, he thinks, is not

more than must naturally arise from the temporary suspension of the pain, caused by the attacks of inflammation during the secondary stages of the disease. Mercurials he has pushed to a very considerable extent, but he conceives it is only by their evacuant properties, (upon the principle just laid down,) that they are ever productive of benefit. Upon the whole, it seems altogether a hopeless malady, (unless it be combated at the very onset:) we shall therefore take leave of it, and proceed to give an account of that part of the volume which is strictly pathological, and which, we apprehend, will afford to our readers more interesting matter for reflection.

The origin of tubercles, tumours, and scirrhous disorganizations, (to which every part of the body is occasionally liable,) is a subject of very great obscurity. Most writers ascribe them to interstitial deposition; that is, to the effusion of coagulable lymph from the blood-vessels. And the power which the lymph so deposited has of becoming organized, is supposed to explain the progress and peculiarities of these morbid growths. But Dr Baron maintains, that neither the physiology nor pathology of the vascular system countenances such an hypothesis. It is impossible to conceive the deposition of a coagulum, or any effusion of fibrine to take place, except through the intervention of inflammation; and he puts it to the reader to say, whether there are not almost daily found cysts containing fluids and substances of various kinds, imbedded in the viscera, or attached to different parts of the body, when no previous inflammatory symptom existed. He asks whether the phenomena that occur during the progress of the cases just referred to, do not differ totally from the phenomena of any species of inflammation with which we are acquainted. He contends further, that tubercles in the lungs are not the result of inflammatory action, but exist prior to it; and that scrofula in its ordinary forms manifests itself in lymphatic obstructions and tumefactions, long before other changes occur. We quite agree with him that the very existence of a predisposition to such disorders proves something previously wrong in our frame; and hence there appears a great deal of fairness in his inference, that inflammation merely converts the latent into an active disease. In concluding he observes,—

"The remedies which subdue inflammation in other cases do not remove these complaints; which we have every reason to believe they would have done, had increased vascular action been alone concerned in their production. In phthisis pulmonalis we daily witness melancholy events of this kind; and similar disappointments in the treatment of the tuberculous disease in the peritonæum, first led me

to distrust the doctrine which gave inflammation for its cause." p. 121.

Since the author wholly excludes the agency of inflammation and consequent lymphy deposition in forming the tumours referred to, our readers will naturally ask how he accounts for their existence? We may tell them in a few words his entire hypothesis. He considers that *hydatids* give rise to every morbid growth, and that these bodies undergo various transmutations which, in effect, constitute tumours of every sort of texture and degree of solidity. All the varieties of tumour, whether encysted, steatomatous, or cancerous, he thus resolves into hydatids in different stages of transformation. The limpid contents of these bodies is soon converted into substances of a very different character, by a change progressive but not uniform. This change, he says, can be traced with accuracy only in the larger hydatids, and he thus delineates its progress:

"— it commences with an opaque spot which advances in some instances with rapidity; in others more slowly, and ultimately renders the coats (of the hydatid) thicker, and destroys their contractile power: but no regularity is observed in this process, and the morbid changes proceed in various ways. The conversion is sometimes into a substance resembling cartilage, possessing both its density and colour; again, signs of ossification are seen in the coats of the hydatid, while its contents retain their original character; but more frequently the latter are changed, and assume a vast variety of appearances. Most commonly a pulpy kind of substance, resembling scraped cheese in appearance and consistence, is met with. Sometimes a fluid resembling cream is found: at other times it is dark-coloured, like a mixture of blood and water; or it may be transparent and glairy like the white of an egg. With these, gritty or earthy concretions are frequently found."

"It occasionally happens when a cluster of hydatids have grown together, and when in the progress of their conversion they have formed a large encysted tumour, that punctures or incisions into different parts of the mass, will afford many of the varieties of contents that are mentioned above. I remember to have seen this in a very interesting case that I had the honour of attending with Dr Jenner, at Cheltenham. By puncturing the abdomen at three different points, before death, we got a glairy fluid, a dark-coloured one, and a thick cream-coloured matter. After death, it was found that the immense tumour which filled the abdominal cavity, and caused dreadful distress from its distention, sprung from a small root or pedicle, which grew from the right ovary. The original hydatical structure, in some places, was very visible; but in others, besides the peculiarities already marked, we found portions of the mass which had acquired the character and appearance of a scirrhous tumour."

"The whole of the morbid growth with its *various contents and textures*, was free from adhesion with the surrounding parts, except at the point already mentioned, and where the punctures had occasioned inflammation and attachment, between it and the peritonæum."

"I have seen, likewise, a case where the section of a transformed hydatid exhibited a series of concentric laminae, resembling very much the appearance of a urinary calculus." p. 93–95.

It is not only by morbid dissections of the human body that the author has been led to these conclusions, but by experiments and observations on the lower animals, made in conjunction with Dr Jenner. It has been ascertained by the last-mentioned celebrated individual, that when young rabbits are kept on food that supplies imperfect nourishment, their livers soon become studded with hydatids. These he has been able to trace through all their gradations,—from the first inspissation of their contents, up to their final conversion into tubercles of varying size and hardness. In the lungs of a young heifer, also, he has found clusters of tubercles, some of which, when cut into, displayed a family of hydatids. He also ascertained that the kind of pork which in ordinary language is called *measly*, possesses a similar morbid structure; the measly appearance being caused by small *hard* hydatids diffused throughout the cellular membrane of the hog.

It thus appears that *hydatid* is an improper appellative for those peculiar substances known by that name; as it is only appropriate while they continue in their watery stage, but does not apply during their successive transformations.

We shall extract one more passage on this point, not only because it renders the author's doctrine more concise and intelligible, but because it makes us acquainted with his views on the subject of cancer.

"The progress which I have attempted to describe in the formation of tubercles and tumours is sometimes presented to our observation in a very satisfactory manner on the outward parts of the body. Small circular vesicles are often seen growing on the edge of the eyelids. Their contents at first are quite liquid. After a time a change takes place, and a melicerous, or atheromatous, or cartilaginous tubercle may be formed. On the same eyelid, at the same time, these facts may be exemplified. One tubercle may have a watery fluid within a thickened cyst. In another, the cyst may be unchanged, while the matter contained in it is very much so. Ultimately, a complete destruction of the hydatical character may be observed, and a hard tubercle substituted in its stead."

"When ulceration is by any means induced in parts where tubercles exist, the ulcer in general assumes that appearance which is termed

cancerous, as it is the peculiar arrangement of the elementary parts of the morbid structure which occasions the characteristic marks of the ulcer in question. What I refer to is very well seen when it attacks the lip. As the ulceration proceeds, the unequal granulated surface is more and more visible, and the tuberculous structure of the affection may be demonstrated by the appearance of distinct circular bodies projecting from the diseased surface. The examination of this complaint by the touch, as well as by dissection, very plainly proves what I have described; and the ulcerative process taking place in parts whose structure is altered by disease, cannot lead to a healthful termination, till the diseased part is removed." p. 256.

We have thus given an outline of Dr Baron's theory, omitting, of course, the greater part of the facts and reasonings by which he seeks to confirm and illustrate it. We have no hesitation in saying that it is highly ingenious, and that the author deserves the greatest credit for having presented it to the profession. Of its substantial correctness, however, we would be understood to speak with much more uncertainty. No doubt we are disposed to receive with the greatest respect and attention whatever is sanctioned by an intellect so sober and philosophical as Dr Jenner's,—(for our author admits, with laudable modesty and candour, that the first hint of these new views was received by him from that eminent physician;) but still it behoves us to be cautious of admitting opinions so novel. Such is the difficulty of establishing medical truth, and such the risk of all attempts at generalization being either premature or fanciful, that we think we should not discharge our duty were we not to put our readers, and especially the younger part of them, on their guard against this, as well as other new theories. While we exhort them to read and to study Dr Baron's work, we would not have them to adopt his opinions, until future experience shall have pronounced upon them. General principles may be unfolded by the genius of one, but it is only by the industry and observation of many that they can be ultimately confirmed. Nothing is more derogatory to professional character than to be hurried away by every new physiological or pathological speculation. This is the error to which the young are chiefly liable: they are apt to speak of established doctrines in the tone of Moliere's mock-doctor—"*nous avons changé tout cela*,"—and to fly from novelty to novelty; until at last, after repeated disappointments of their own creating, they probably settle down into a cold scepticism, that doubts or despises every thing connected with medical science!

Dr Baron has laboured to remove the whole class of tubercles

and tumours from the pale of the sanguiferous system, and to make them over to the lymphatics. But he has hardly succeeded in accomplishing the transfer so satisfactorily as we could have wished. Even if we admit his theory to the full extent, if we admit, for instance, that all morbid enlargements are merely transformed hydatids, still it will remain to be proved that these hydatids belong to the absorbent system. There can be little doubt that the absorbents are the sole instruments by which are effected the transmutations he describes;—that they are the agents by which a watery vesicle is converted into a solid tubercle;—but no evidence has been offered that hydatids, on their primary appearance in the system, belong to one texture of the body more than to another. In fact their origin is extremely obscure. They are generally supposed to be living animals, and are classed as such by Cuvier among the tapeworms. They are often generated in the very substance of the different viscera of man and animals. If these vesicular animals are the products of germs swallowed with the food, they must be deposited by the circulating vessels, and the lymphatics can have nothing to do with their collocation,—far less with their primitive formation. Certainly De Haen, in his "Ratio Medendi," and also Boerhaave, have referred hydatids to the lymphatic system; and Dr Baron shelters himself under their example. But we greatly suspect something more is requisite than the authority of great names to make any questionable medical doctrine pass current at the present day.

We make these observations in the spirit of doubt, rather than of actual disbelief: for, upon the whole, we ourselves are inclined to go in with the author's theory, and to think that, most probably, hydatids and tubercles have a closer connection with the lymphatics than with any other tissue of the body. All we mean to convey is, that the proof of this, adduced by our author, is extremely slender and unsatisfactory. We trust he will take our strictures in good part, and reconsider the subject ere he puts forth the subsequent part of his work.

We are glad, before concluding our analysis, to recur once more to practical matters, after so much disquisition on points of theory. We greatly admire the author's views on chronic and scrofulous disorders, and the happy boldness with which he has brought some homely though forcible analogies from the vegetable kingdom, and even from the economy of the lower animals, to illustrate these maladies. Nothing, we believe, is more baffling to the physician than that cachetic state of the system which is expressed negatively by the term "being out of health." Patients in this state move about from day to day, pining in

atrophy, and gradually getting more weak. They are flurried by the slightest exertion; their sleep is disturbed; their appetite fastidious rather than bad; their tongue in the morning coated with yellow; their skin dry, scaly, or pasty; their bowels torpid and flatulent, their dejections dark; and their urine very often high-coloured and turbid. All these symptoms betoken defects in the nutritive system, which will go on increasing until they have produced the most serious disorganizations, unless we attend to, and remove them, in time—by rectifying the various secretions of the alimentary canal,—by freeing the mouths of the lacteals from obstruction,—by regulating the diet,—by looking to the skin and promoting the healthy action of its extreme vessels—in short, by preserving the *fountain of nutrition* in full play, and free from all noxious contamination.

"Let us," says Dr B. "notice what is seen in the vegetable kingdom when trees grow languidly,—when they are covered with parasitic plants and animals,—when their bark is rough,—when they imperfectly put forth their flowers and their fruits,—what do we infer, but that soil or situation, or the conduits through which the plant is nourished, are at fault? Under such circumstances, how does the skilful gardener act? He clears out the roots, supplies manure, removes the parasitic plants and animals that have fastened upon the epidermis; and if the disease has not proceeded too far, he is rewarded by a healthful and vigorous growth."

"The analogy between animals and vegetables, and their diseases, as far as they depend upon that part of their system which they have in common, is very complete. The comparison which has been instituted may seem somewhat coarse, and not quite applicable to the complicated pathology of man and the higher animals; but this prejudice will vanish when it is closely examined. It may contribute to this end, to give our attention for a moment to such facts as the experience of our stable discipline affords. Examine a horse out of condition, observe his harsh scaly hide closely binding his flesh,—his cracked heels,—his poor emaciated appearance,—his feebleness, his bad wind, and his unfitness for labour. See him sweating easily, and drying with difficulty, and his food passing from him in an undigested state. Look at the same animal after the extreme vessels on both surfaces have been set free, and brought into a healthy state,—the internal by purging, and the external by the well-applied labour of the groom. See how quickly and steadily goes on the process of digestion and assimilation,—how the skin becomes soft and pliant,—how the animal acquires flesh, and strength, and spirit, and energy, greater far than he ever attains in his natural state of existence;—how all appearances of disease vanish;—and how he becomes master of those wonderful powers, which astonish us in the hunter or the race-horse!

"From what may be observed in our stable, we may advert to

what we witness in those men who are trained either as prize-fighters, or for other extraordinary feats of strength or activity. Their preparations for training, and all that they do in that state, correspond in every respect with what has been described, and well establishes the doctrine which these remarks are meant to illustrate. All impurities are eliminated; all the viscera and their emunctories are, as it were, purged by an attenuating diet, and laxatives, and sweating. Then by judicious and nutritious feeding, and exercise, and friction, the body is brought into a state capable of enduring the most extraordinary exertions." p. 153 to 155.

The doctrine here laid down is exceedingly just, and the practical inferences it suggests deserve the greatest attention. We ourselves have acted upon this very doctrine, (though led to it by a species of reasoning somewhat different,) and in more than one instance, in the space of a few weeks, have succeeded in restoring to firm health, a poor, emaciated, hypochondriacal being, whom even the very winds of heaven seemed to visit too roughly, and who, for months before, had been drooping under a latent ill-defined sort of indisposition. In these cases, our only remedies were brisk purgatives; and, contrary to the fears of his anxious relatives, who asserted that "such rough medicines would tear him to pieces in his then weak state," the patient became sensibly exhilarated after every evacuation of the primæ viæ; and in no long time, by dint of firmness and perseverance in the purgative plan, recovered his wonted flesh and vigour. We can assure our readers that it requires no little resolution both on the part of the patient and the physician, to persist steadily in the use of evacuants, in spite of that prostration of strength which *seems* so forcibly to contra-indicate their employment.

One of the most interesting parts of the volume is a communication from the venerable Dr Jenner on the *sickening plan* of treating certain local affections that depend on a constitutional taint, such as scrofulous and scirrhous indurations, and other chronic obstructions. The passage is too long to extract, but we shall put our readers in possession of the leading facts.

A gentleman affected with scirrhous tumours, which had defied all remedies, was ordered to a warm climate, in the hope that his malady might derive benefit from the change of air. He set sail; but owing to boisterous weather, he was no less than three months in reaching his destination. During all this time he was sea-sick, and arrived greatly enfeebled and emaciated. On looking for the scirrhous bodies, however, they were gone! they had been absorbed.

A lady of Cheltenham had a tumour in the right mamma,

which Dr Jenner, conceiving it to be scirrhous in its nature, advised to be immediately extirpated by the knife. This she refused to submit to, and went to London, where she placed herself under the care of another practitioner. The latter gentleman gave her nauseating doses of tartar emetic daily, so as to keep her always not only sensibly, but distressingly, sick. She grew thin and somewhat weak, but in the end the absorbents removed the whole of the disease from the breast, which remained for many years afterwards quite sound. Dr J. has forgotten the exact time occupied by the curative process in this case; but, he says, it "was certainly not to be considered as tedious."

A young woman who had quitted the country to reside in London became affected with ill health, which obliged her to return to her native air. When Dr Jenner saw her he found her labouring under cough, emaciation, and, in short, all the usual symptoms of tubercular phthisis very strongly marked. He set down the case as hopeless. Nevertheless, "she completely recovered under the *sickening* plan, which she went through with great resolution." The medicine employed was three parts of tincture of squills, and two of tincture of digitalis, given in doses of twenty drops thrice a-day. She continues permanently well, and is now married.

On these interesting and important cases, Dr Jenner reasons in the following manner:

"As we have been for ages in total darkness respecting the means of removing tubercles from an internal organ, when formed to any extent, may we not hope that the little glimmering which this seems to let in upon us, may lead to something beneficial to humanity? And without putting theory to the rack, may it not be supposed that the stomach and intestines, being thus deranged in their ordinary functions, and the supplies for the absorbents becoming scanty and deteriorated, they the more readily seize on such bodies, not those only that are absolutely extraneous, but which come so near that point, as tubercles?"

"If we take a retrospective view of the most popular remedies hitherto employed in these pitiable maladies, shall we not find that they consist of such things as produce a nauseating effect on the stomach, either from immediate contact, or secondarily, through their influence on the brain? One might name a great variety; *e. g.* foxglove, squill, nitrate of potass, sulphate of zinc, sulphate of copper, conium maculatum, sailing, swinging, &c. &c. Remedies of this description have all in their turn risen to high reputation, and again sunk into disrepute. All of them seem to have done some good, and to have given a little flattering check to the progress, probably by inducing sickness; but the mode of exhibition, if we may be allowed

to draw an inference from the preceding cases, was too limited; the interval of freedom from nausea was too long." p. 162.

This explanation is exceedingly plausible, and perhaps just; but it is liable to some ambiguity. For instance, those who believe tumours and tuberculous growths to arise from topical increased action of the sanguiferous system, may explain the efficacy of the sickening plan, on *their* principles, by referring it to the influence of the medicines on the vascular system. Every one knows, that nothing has greater power in subduing increased action of the heart and arteries, and in diverting morbid determinations of blood from any part of the body, than vehement and long continued nausea. We ourselves have very generally remarked, that the occasional lancinating pains which attend tumours of a cancerous nature, are always suspended while the sickness of stomach, produced by medicine, continues. This we take to arise from diminution of the impulse of blood in the tumour itself, and not from any increased activity of the absorbents.

The last chapter of Dr Baron's work contains some interesting remarks on pulsation at the epigastrium, and on vomica. The latter he does not admit to be the result of inflammation, as heretofore supposed: on the contrary, he maintains that the matter is not really purulent, but encysted; and that the cyst, in this case, is analogous, as to its origin and formation, to growths of a hydatical character.

After the opinion we have given at large in the course of our article, it would be superfluous to bestow upon Dr B.'s volume any formal commendation. It must be pretty apparent that we consider it too speculative, perhaps; but, upon the whole, a masterly production; and we look forward to the promised sequel of the work with a very considerable degree of interest.

PART III.

MEDICAL INTELLIGENCE.

Report of Progress of the Epidemic Fever at Edinburgh, as deduced from the Admissions into the Public Hospitals.

The fever, which began to be epidemic in this city about the beginning of 1817, having for several months past been on the decline, a table of the cases which have occurred in the Royal Infirmary and Queensberry-House Fever-Hospital, from that period to this date, will form an interesting document, as exhibiting a pretty just view of the progress, extent, and decline of the epidemic.

1817.	Cured.	Died.	Total.	One Death in
January,	19	3	22	$7\frac{1}{3}$
February,	17	0	17	0
March,	18	1	19	19
April,	38	2	40	20
May,	34	4	38	$9\frac{1}{2}$
June,	26	1	27	27
July,	33	3	36	12
August,	39	3	42	14
September,	49	3	52	$17\frac{1}{3}$
October,	53	1	54	54
November,	59	6	65	$10\frac{5}{6}$
December,	93	6	99	$16\frac{1}{2}$
	478	33	511	$15\frac{16}{33}$

1818		Cured.		Died.		Total.	One Death in
Jan.	Royal Infirmary,	87		9		96	$10\frac{2}{3}$
Feb.	———	90		6		96	16
March,	———	91	133	5	9	142	$15\frac{7}{9}$
	Queensberry-House,	42		4			
April,	Royal Infirmary,	59	130	2	6	136	$22\frac{2}{3}$
	Queensberry-House,	71		4			
May,	Royal Infirmary,	34	106	2	4	110	$27\frac{1}{2}$
	Queensberry-House,	62		2			
June,	Royal Infirmary,	61	133	1	7	140	20
	Queensberry-House,	72		3			
July,	Royal Infirmary,	42	108	3	5	113	$22\frac{3}{5}$
	Queensberry-House,	66		2			
Aug.	Royal Infirmary,	45	129	2	4	133	$33\frac{1}{4}$
	Queensberry-House,	84		2			
Sept.	Royal Infirmary,	61	117	1	4	121	$30\frac{1}{4}$
	Queensberry-House,	55		3			
Oct.	Royal Infirmary,	80	170	2	7	177	$25\frac{2}{7}$
	Queensberry-House,	90		5			
Nov.	Royal Infirmary,	53	137	3	5	142	$28\frac{2}{5}$
	Queensberry-House,	84		2			
Dec.	Royal Infirmary,	73	157	2	9	166	$18\frac{4}{9}$
	Queensberry-House,	84		7			
		1497		75		1572	21 nearly.

1819.		Cured.		Died.		Total.	One Death in
Jan.	Royal Infirmary,	81	148	2	4	152	33
	Queensberry-House,	67		2			
Feb.	Royal Infirmary,	70	136	3	7	143	$20\frac{3}{7}$
	Queensberry-House,	66		4			
March,	Royal Infirmary,	64	136	1	3	139	$46\frac{1}{3}$
	Queensberry-House,	72		2			
April,	Royal Infirmary,	61	126	3	3	129	43
	Queensberry-House,	65		0			
May,	Royal Infirmary,	58	131	2	4	135	$33\frac{3}{4}$
	Queensberry-House,	73		2			
June,	Royal Infirmary,	38	75	1	3	78	26
	Queensberry-House,	37		2			
July,	Royal Infirmary,	22	65	0	1	66	66
	Queensberry-House,	43		1			
Aug.	Royal Infirmary,	11	47	1	2	49	$24\frac{1}{2}$
	Queensberry-House,	36		1			
Sept.	Royal Infirmary,	19	52	0	1	53	53
	Queensberry-House,	33		1			
Oct.	Royal Infirmary,	11	41	1	1	42	42
	Queensberry-House,	30		0			
Nov.	Royal Infirmary,	19	35	1	1	36	36
	Queensberry-House,	16		0			
		997		30		1027	34

It is believed that, during the first six or eight months of 1817, a smaller proportion of persons affected with fever were admitted into the hospital than were afterwards received when the Society for the Relief of the Destitute Sick began to take a more active part in endeavouring to check the progress of the disease; and in the month of December 1817, and January and February 1818, a considerable number of patients were unavoidably refused admittance for want of room; and, for the same reason, even after the opening of Queensberry House, the admission of patients was not unfrequently postponed for a day or two. To what extent the fever may have prevailed in Edinburgh at any former period, we have not sufficient documents to shew; but, on the present occasion, there is no doubt that the zeal and activity of the Society for the Relief of the Destitute Sick, and of the Committee for Checking the Progress of Contagious Fever, has been the means of bringing to the hospitals many more persons than would have spontaneously come, and that the proportion of fever cases in the hospitals to the whole affected with the disease, has been much greater now than on former similar occasions; but certainly nothing equal to it in point of extent has before occurred, so far as the Royal Infirmary is concerned. During a period of fifteen months, from the 1st of March 1818, to the 30th of May 1819, the average monthly number of fever cases in the two hospitals was 139; but since the month of June this year, the decrease has been great and steady, in so much that the disease may now be considered as nearly to have ceased to prevail as an epidemic. And this is the more probable, as, during this year, a similar decrease has taken place in various parts of Ireland, and, it is believed, still to a greater extent in Glasgow. For though the cases of fever in the two hospitals are still more numerous than during the first eight months of 1817, that must in a great measure be ascribed to the continued attention of the association for checking the progress of fever, and to the increased desire of the poor to avail themselves of the benefits of the hospitals.

1*st December* 1819.

Account of the Epidemic Fever, as it appeared at a Village in Yorkshire by J. Terry, Member of the Royal College of Surgeons, London.

HAVING just received the Edinburgh Medical and Surgical Journal for April 1819, I observe, in Dr Hunter's paper on Continued Fever in Leeds, that he wishes an account of the prevailing fever in more remote situations in Yorkshire, to be transmitted for insertion in your valuable publication. This is a small and not a very populous market town in the North Riding of this county, about fifty miles from Leeds and nine from Richmond.

As my information is merely to show, that typhus fever is not confined to large crowded cities nor dirty lanes, on the nature and treatment of that disease I shall offer few or no remarks. In August 1818, an Irish regiment passed through this place, and were obliged to leave a soldier ill of the typhus fever, who fell a victim to it in a few days afterwards; but I know no particulars of the case, as the poor man did not come under my immediate attention.

Although few lives have been lost, we have never been entirely free from this disease since the above date, and it broke out soon after the Irishman's death in cottages adjoining, and in that end of the town it remained for several months. Ere long, however, the contagion was communicated to the most distant parts of the place, and situations the most remote. We have not many dirty householders, several of whom escaped, while the most cleanly and respectable farmer's family became infected with the disease.*

We seldom saw more than one or two families afflicted at the same time; nor have we been entirely free from the disease since the Irishman's death. The country is called healthy on account of being open and hilly. We are upon limestone. The adjoining villages have not escaped this contagion, more especially Wensby, a mile distant, where the symptoms, I think, have been more urgent. I have seen most of the remedies recommended for the last few years fully and fairly tried. I have seen them all succeed; I have seen them all fail. I always bleed at the onset when the patient complains of much pain, wherever situated; then open the bowels very freely with calomel and jalap, which, in some cases, puts an end to the disease; if not, calomel and opium at bedtime, and salines with antimonials during the day. If you think this short report worth insertion it is much at your service, and may encourage other country surgeons to obey Dr Hunter's request.

P. S. I might have added, that the seasons never seemed to influence the disease. The disorder continues much in the same state as for the last five years.

Leyburn, 18th May 1819.

CORRESPONDENCE ON SMALL-POX AND VACCINATION.

Observations upon the Effects of Vaccination, by William Crane junior, M. D. formerly President of the Royal Medical Society, Edinburgh, Boston, Lincolnshire.

WHOEVER reads papers to which the names of Thomson and Hennen are attached, cannot fail to peruse them with interest and benefit. Mr Hennen's paper, in the Edinburgh Medical Journal for October 1818, "On Eruptive Diseases," is highly interesting, not only from the accurate and elegant manner in which the symptoms are drawn up, but also on account of its affording, I should say, undoubted evidence of the occurrence of variola, much modified, after vaccination. For, although the learned author has declined giving that, or any other name, to the disease he describes, it contains too much evidence to form a contrary opinion. Variola is a disease that assumes a variety of forms, even in those who have not undergone vaccination. Every medical practitioner must have observed this upon inoculating different persons from the same pustule. In one, it will produce a very slight fever and a few pustules, which die away early, and leave no marks; in another, the same matter produces a violent degree of fever, copious eruption, becoming confluent, and terminating in the death of the patient; in a third, a mild distinct small-pox; all these varieties appearing in those who have not undergone vaccination. It becomes an interesting inquiry to discover, if vaccination has the power of preventing small-pox, why does it ever fail? And, in those cases

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* One of my most deplorable fatal cases was a farmer's (delicate) son at the age of twenty-nine; another son and two daughters narrowly escaped from the complaint.

where it does, has it the power of producing merely a modified disease, or entirely a new one? These questions, of the greatest importance to the welfare of mankind, can only be answered by a complete mass of evidence, derived from many sources, and it is under this impression that I am induced to intrude upon the medical profession my opinions and observations. With respect to the first inquiry,—Has vaccination the power of preventing small-pox? To answer this question in the affirmative, such an immense body of facts are now collected together, and so general has vaccination become throughout the world, where art and science is cultivated, that we need only appeal to each individual, and request him to look over the annals of his own practice, and he will discover that, out of the hundreds he may have vaccinated, very few, if any, cases of failure, have come under his own observation. In the immediate neighbourhood of Boston, I have made many inquiries. Some have answered that they have met with a few cases of failure; others that had not met with a single instance. One gentleman observed, that he had vaccinated three children in one family, but the father, who had never had the small-pox, was obstinate, and would not be ruled; he caught the small-pox; it became confluent, and he died. The children that had been previously vaccinated slept in the same bed with him until within a very short period of his death, but did not receive any disease. Another gave me an instance of a child that was vaccinated and was suckled by its mother, when she had the small-pox, without communicating the disease to the infant. In my private practice, and in the course of my attendance in the General Dispensary of this place, not more than about ten or twelve instances have occurred. In one, the most marked, the disease became confluent, the child was blind, and very large pustules were formed, particularly on the great toe of each foot. A great number of the parents whose children have been vaccinated at the Dispensary, almost from the very commencement of vaccination, have informed me, that they have repeatedly exposed their children as much as possible to the small-pox, without the least detriment to their health. To multiply decisive and striking examples would be an easy task. In short, the proofs have now become so numerous, and so extremely decisive, that we may, without hesitation, affirm that vaccination has the power of rendering the system capable of resisting the attack of small-pox. This, like all general rules, appears liable to an exception, and one to which the anti-vaccinist resorts with exultation. Cases of failure in small-pox after vaccination do certainly occur. Why do such circumstances occur? Vaccination, in the country, is often performed in a very negligent manner, owing, in a great measure, to the difficulty of keeping up a constant supply of lymph. It frequently happens that one arm only is vaccinated, and the pustule is in its progress disturbed, by taking away the matter. This is directly contrary to the rules of the National Vaccine Establishment, for they observe, even when two vesicles are formed, that "One of the vesicles should always be permitted to go through its regular course without being punctured or being disturbed." How much more necessary it is, therefore, when only one puncture is made, that that vesicle should go undisturbed through its course. They further state, "When only one vesicle has been produced, it is prudent to test this case by a subsequent vaccination." This precaution is often prevented by the negligence of the patient; for, satisfied with one vesicle rising, he never sees his medical attendant again. In this part of the country, the Brycean test is seldom or never adopted. This negligence is, in some measure, owing to the zeal of the early vaccinators, whose representations have led the public to suppose it was sufficient to be vaccinated, however carelessly performed. But, after every precaution, vaccination appears sometimes to fail. Dr Monro, in his excellent work, a work worthy the name of Monro, upon Small-pox after Vaccination, has given a

great many instances of small-pox occurring twice, both from ancient and modern authors, and also from his own observation. The memoir presented by Messrs Berthollet, Pinel, and Hallé, to the Imperial Institute, states, that more persons have had small-pox twice, than have had this disease after vaccination. Within four miles of this place, a miller of the name of Pocklington, I am informed, upon good authority, had the small-pox twice, and each time very severely. The first was when a child, and the second when he was grown up to manhood; both times the casual small-pox. At Frisknay, a place thirteen miles hence, a man was inoculated, about ten years ago, for small-pox, and had a mild disease. He, during the prevalence of this disease last year, received the small-pox and died. Two children in this town were reported, by their medical attendant, to have the small-pox during last summer for the second time. If, therefore, small-pox can occur twice in the same person, it cannot be a matter of surprise that it should sometimes make its appearance in those persons who have been previously vaccinated. Let us now inquire—Why? It is undoubtedly the property of some constitutions to be peculiarly liable to receive contagious diseases; so that, being in the least exposed to their influence, they become immediately ill. This we constantly observe whenever any contagious disorder is prevalent, for some spend their whole time in nursing and attending upon their sick friends, with the utmost impunity, whilst others, standing by the bedside, or breathing only for a few minutes the air of the patient's room, are affected with the disease. This is often peculiarly manifest in typhus, scarlet fever, measles, and small-pox itself. Some nurses that have previously had the small-pox will, when suckling children affected with this disease, have variolous eruptions and febricula; others, on the contrary, under similar circumstances, remain perfectly free. Hence I am induced to suppose that it is not improbable, in those cases where vaccination has been properly performed, and small-pox has afterwards occurred, that it is in those persons who possess this peculiar predisposition to receive contagious diseases. The many instances of small-pox, when it does occur after vaccination, happening to several members of the same family, in some measure tends to support this opinion. Thus we find, in Dr Monro's work, that three of his children had the modified small-pox. The fourth and fifth cases are those of a brother and sister, as are also cases six, seven, eight, and nine. The case of the gentleman mentioned in this last case strongly corroborates my opinion. "It is worthy of remark," Dr Monro observes, "that this gentleman, when a child, had had the natural small-pox, caught by contagion from his sister." Mr Dawson, in his letter to Dr Monro, says, that out of three thousand five hundred children that have been vaccinated at his surgery, he has met with but a few cases of failure, and "perhaps six or seven of these, too, were children belonging to the same family." I have twice met with similar examples. A surgeon in this neighbourhood informed me that three children, vaccinated about five years ago, and reported, by their medical attendant, to have properly gone through the disease, have lately had the small-pox, and one of them died; but he further observed, that the cicatrix was not so visible upon the arm of this child, as on those of the other children who had a mild disease. The following case, which has come under my care since reading Mr Hennen's paper, will further illustrate the conclusion I am about to draw. Case. Avison Mary, ætat. 40. married, says that she was inoculated for the cow-pock last May. The pustule rose well, and formed a large areola, and she was told by her medical attendant that she had gone properly through the disease. She was not in the least affected with any febrile symptoms or illness during the progress of the pustule. Upon inspecting the mark left by the pustule, it has the well marked appearance of the vaccine cicatrix. This woman has had three children that have just gone through the small-pox. Two of them

I inoculated for cow-pox at the Dispensary, and the following day the eruption of small-pox appeared; having been previously much exposed to it in the neighbourhood for some time. They had a mild small pox, which did not interfere with the progress of the vaccine pustule. The third child, that was not vaccinated, had the confluent small-pox, and is now very much marked in the face. The mother was also, at her request, vaccinated at the same time, but did not take the infection. On the 12th of last November, being about a fortnight from the illness of her children, she was seized with a severe pain of the head, and the usual symptoms of pyrexia. 13. A small papular eruption appeared this day; pain and fever unabated. 14th, I saw her for the first time since her illness this morning. There is a very considerable redness over the whole surface, and, in various parts of the face and extremities an eruption, having, to the touch, a seedy feel, so peculiar in the early stage of small-pox. The pain of head is somewhat relieved, but she complains of severe pain in the extremities and body; there is still a considerable degree of pyrexia. Belly bound. To have an opening powder. 15th. The febrile symptoms entirely disappeared upon the operation of the aperient medicine. The eruption is now vesicular, with inflamed bases, particularly on the face and arms. 16th. She feels in good health. The eruption on the face has in many places become pustular, with a depression, and some have a small brown scab in the centre. A few more spots have appeared on the arms, which came out yesterday. 17th. She continues well. The pustules on the face are brown, and the vesicles on the arm have dried up without forming matter, and the new eruptive spots have disappeared. 23d. The scabs on the face have fallen off, and the eruption upon the arms have left no marks. Hence, when it is considered the many thousands that have been vaccinated and resist the contagion of small-pox, and the very few that have even the modified small-pox, perhaps it is not improper to form the following conclusions: That there is in some persons a strong predisposition to become infected with contagious diseases, and that this peculiarity of constitution appears to run through the various members of the same family. Further, that in such persons, although vaccination has not the power of rendering the system capable of resisting an attack of small-pox, yet it has the power of converting it into a mild and simple disease, nearly resembling varicella. Having thus stated my ideas respecting the two first questions, I come now to the third. Has vaccination the power of producing merely a modified small-pox or entirely a new disease? This question has arisen in my mind from observing Dr Thomson use the word varioloid. Upon this word I shall presently make a few observations; having first endeavoured to prove that it is not a new disease, but merely the variola in its most simple form. If it were a new disease, then should the matter taken from those labouring under it be incapable of producing genuine small-pox. The contrary of this is well known to be the case, for Dr Thomson states, in his paper entitled "Some Observations upon Varioloid Disease, &c." Edinburgh Medical Journal, Oct. 1818, "That all the cases of mild and malignant small-pox which have occurred in the Castle, were derived from matter taken from Mr Hennen's son" Besides, where is there any example of the contagion of one disease producing, under any circumstances, a new disease, entirely different from itself? If this idea is started from its comparative mildness, might we not as well consider the distinct and malignant small-pox as different diseases? For these reasons I am inclined to think that it is not a new disease, but merely small-pox in its mildest possible form. Why I should object to the term varioloid is, because the termination in *oid* may mislead the medical writers in future ages, if the term syphiloid be retained. For the termination, in this instance, does not imply syphilis in its mildest possible form, but a disease greatly resembling it, much more severe, much more diffi-

cult to cure, the treatment of it essentially differing from syphilis, and certainly arising *from a different source*. Hence we may say that syphilis and syphiloid are, in fact, two very different diseases, in almost every respect, which is not the case with the variola and varioloid, for they are certainly generated from the *same source of contagion*, and only differ in the mildness of their symptoms; and this difference is not greater, as I have observed at the beginning of this paper, than what is acknowledged so take place between the mildest and worst kind of genuine small-pox. Hence, instead of employing the term varioloid, I cannot help thinking that modified small-pox, or perhaps *variola vaccinea*, would be more correct. The learned professor has, with great erudition and ingenuity, suggested that varicella "and the modified small-pox are one and the same disease." To prove if this be the case is, to one enjoying an extensive hospital practice, a matter of no great difficulty, for he has only to take the lymph of a person labouring under chicken-pox and inoculate several persons with it who have not had any of these varieties, if they may be so termed, or undergone vaccination, and observe if, in any instance, distinct or malignant small-pox is induced. The small-pox has been very prevalent in this town and its neighbourhood the greater part of this year. Before its appearance, there were several cases of varicella; but since, I find upon inquiry that there have been only a very few instances; and certainly there are several who have had varicella, and afterwards gone through small-pox in the usual manner. There can be but little doubt that mild cases of secondary small-pox may have been considered as cases of chicken-pox; but that variola and varicella are only varieties of the same disease, is a subject that requires considerable investigation before it can be established as a certainty. At present, there appears to me as much reason to consider them as distinct diseases as scarlatina and measles; for these, in some instances, so nearly resemble each other, that it becomes almost impossible to distinguish them.

A Case of Small-Pox, in which two distinct Crops of Eruption were observed. By Edward Turner, M. D. Clerk at Queensberry House Fever Hospital, Member and Annual President of the Royal Medical Society.

At the present period, when new opinions have arisen concerning the pathology of small-pox, any case in the least degree uncommon acquires interest; and on this account I present to the public the following instance of small-pox, during the progress of which two crops of eruption appeared, attended with corresponding constitutional changes.

Though analogous examples may perhaps be found in books, especially in the older authors, yet this is sufficiently interesting and uncommon to be brought before the medical world again.

On the 16th of January 1819, Margaret and Mary Duggan, sisters, the former aged seven, the latter five, were sent to Queensberry House Fever Hospital, under the supposition that they had continued fever, since some of the family had been afflicted with that disease.

The peculiarity alluded to occurred in the younger sister, but notice is also taken of the other for the purpose of illustration. It was thought preferable, for the sake of brevity, to give a condensed view of the case, rather than enter into the more minute detail to be found in our Journal. The children were admitted as patients under the care of Dr Home. I took daily reports of them, which were read to the Professor, and subject to correction or addition; they were taken without the most distant idea of publication, or without the expectation of any thing unusual. The particulars are communicated with the liberal permission of Dr Home, and of the Managers of the Royal Infirmary.

No doubt has existed concerning the nature of the disease; for several excellent judges, among whom were Mr Hennen and Mr Bryce, saw the children, and unanimously agreed that their disease was small-pox. Neither of the children had ever been affected with small-pox, chicken-pox, or cow-pox.

Mary Duggan, when admitted, had ordinary febrile symptoms, and was in the 2d day of fever. Pulse 134; respiration 40; heat 99. 3d day, fever less; dry cough; pulse 138; respiration 40; heat 101. 4th day, catarrh, vomiting, and epigastric tenderness on pressure; pulse 140; respiration 30: heat 102. 5th day, catarrh and fever less; a few papulæ have appeared on the face and arms; pulse 120; respiration 30; heat 99. Fever has here sunk with the appearance of eruption. 6th day of fever, a few more papulæ on trunk and legs, some becoming vesicular; catarrh gone; pulse 90; heat 97. The eruptive fever has now wholly ceased. 7th day of fever, 3d of eruption, very fretful; eye-lids swollen; pulse 144; heat 102. This seems the eruptive stage of the second crop; for, on the following day, a copious papulous eruption covered the whole surface, and fever lessened, pulse being 124; heat 100. First eruption vesicular. Next day (9th of fever), the first crop purulent, the second vesicular in part; fever almost wholly gone. 10th day of fever, maturation in first crop proceeds, the second is altogether vesicular; no fever. 11th of fever, and 7th of first eruption, secondary fever of 1st crop has begun; pulse 126; heat 99. Vesicles of 2d crop contain a puriform fluid. Next day, first crop drying with a central scab; pulse 136; heat 100. Next day, fever gone, as pulse 102; heat 98; 2d crop maturate, and are of good size, except on the face. Next day, no fever; pustules of 2d crop have become horny on the face and arm, without scabbing. Next day, (15th of fever, 8th of 2d eruption), the secondary fever of the second crop seems to have set in, and all the pustules have become horny; skin very hot; pulse 140. This fever remained several days, and then gradually declined. The scabs of the first crop gradually fell off, and the horny elevations of the second by degrees approached the level of the skin, without any cicatrix being left in either case.

No remedies were employed to interfere with the changes going forward; a calomel purge was given on admission; the bowels afterwards remained soluble; when the heat was above natural, tepid sponging was occasionally employed.

The case of Margaret terminated in horny elevations, corresponding to the second crop of her sister.

The children slept in the same bed, and the eruption first appeared in Margaret. From this, when the second and decidedly constitutional eruption was observed in Mary, it was thought that the scanty first crop was occasioned by contact with her sister, and this was only a local affection. This supposition was rendered improbable, from the constitutional changes going on in Mary; but the matter was decided by a comparison of dates. For papulæ first appeared in Margaret on the 17th; on the 18th some were vesicular; on the 19th the papulæ in Mary first were seen; so that one day only intervened between the formation of vesicles in the former, and of papulæ in the latter;—a period too short for inoculation to account for the phenomena.

The cause of disease in these children was traced to the Royal Infirmary; for their grandmother, when convalescent from fever in the Infirmary, had occupied the bed next to a patient very ill with small-pox.

A younger sister of these children had small-pox also, and her disease was the most severe, I presume in consequence of her remaining at home; yet the horny process took place without any scabs being formed.

The child of another person caught the disease, apparently from the same source; and her two sisters, one of whom had been vaccinated four years, the

other twelve months before, slept with her during the whole course of the disease, without the least affection, either constitutional or local.

Case of Second Small-Pox, by Whitlock Nicholl, M. D. F. L. S. &c.

1819, May 15, I visited Mary Davies, a single woman, aged 28, who was said to have small-pox. She told me, that she was inoculated in the left arm for the small-pox sixteen years ago, and that, in consequence of such inoculation, she had two pustules on the inside of the right fore-arm, just above the elbow, two or three pustules on the face, and as many on the neck. She also says, that seven or eight persons were inoculated with matter taken from the spot in her arm in which the virus was inserted, two of whom had very full crops of pustules: and that her brother was inoculated with matter taken from one of the pustules on her right arm. He had a "heavy crop," which left many marks which are now visible. She herself has a mark in the left arm, showing the spot in which she was inoculated, and the pustules, which were seated on the right arm, have left faint marks, pointing out the spots which those pustules occupied. Eight years ago, she nursed five children who laboured under natural small-pox, one of whom died of that disease, she herself not having any illness. The small-pox is not in this town (Ludlow), where she at present resides. On the 3d instant, she went to a fair in a town, ten miles southward of this place; she did not enter any house there, but she rested at a public-house on the road-side, within a quarter of a mile of which house the small-pox reigned. On the 6th instant, she attended a fair eight miles westward of this town. On the 11th instant, an eruption made its appearance on the neck, and afterwards on the face and arms, preceded by lowness, sickness, pain of the head, weakness of the eyes, great thirst. She has been subject to pain at the pit of the stomach for about a quarter of a year. This pain became more violent, just at the time when the eruption made its appearance, but it grew slighter afterwards, and it has since nearly left her. When the eruption came out, the face was much swelled, the right eye being nearly closed. The eruption consists of hemispherical eminences or tubercles, nearly of the size of the variolous pustule, very hard and unyielding, reddish, not *seeming* to contain any fluid when rubbed with the hand, appearing of a yellow colour, like that of honey, the immediate summit of many of the tubercles having a shining appearance, as if a very minute quantity of clear liquid were on the surface, which appearance, in reality, arises from an extremely small glistening, hard, thin shield, occupying the summits, such shield not being detached, or above the level of the summit, but being as it were inlaid, and itself forming the apex. On puncturing one of the tubercles with a pin, a small quantity of clear lymph came out The tubercles are very numerous, and very closely set on the outside and back part of each fore-arm and hand, (the inside of the fore-arm being almost entirely free from eruption), around the arms, on the back of the neck, and on the shoulders; the eminences are very small and thickly clustered on the point of each cheek-bone, and on the right palpebra; there are a few tubercles on the breasts, and, she says, that a very few are scattered over the body, and a good many on the legs and feet. There is not any appearance of vesicle, of pustule, or of desquamation. All the tubercles appear to be in the same stage, and of the same duration; there is no appearance of any having declined, nor of any fresh eruption coming forth; there is no depression in any part of any of the tubercles.

I visited her on the 16th, and found that the tubercles had subsided considerably, they being everywhere much less prominent, and more contracted, than they were on the preceding day. On the 17th, I called and found that she was gone on foot to a fair sixteen miles off.

May 21st.—She has just returned from her expedition. She says, that the

walk on the 17th fatigued her excessively; she was "quite spent;" the eruption itched violently, and on scratching it after her walk, a small quantity of clear fluid came out from some of the tubercles, but from only very few. The tubercles have subsided nearly to a level with the surrounding skin; in some parts they are covered with a thin white desquamation; on others there is a minute scale; and where she has scratched violently, there is a very minute scab or crust. On the backs of the hands there is no appearance of scale, or of desquamation, or of crust. She says, that the eruption on the legs, and on the bottom of the feet, went away entirely some days ago; it has disappeared from the face, leaving a roughness of the skin; and a redness of the palpebra is the only mark which the eruption has left on that part. She still has thirst; she has pains in the head, lowness, weakness of the eyes; her appetite is variable. She has not had any increased secretion of saliva. No fresh tubercle or eruption of any kind has made its appearance during her absence. There is no depression, no ulceration, no suppuration in any part of the eruption.

The above statement is as accurate a description of the case as I can convey by words. The case certainly cannot be considered as possessing any of the characteristic marks of varicella. The eruption, up to a certain stage, closely resembled that of variola in an early stage. Having arrived at that stage, it suddenly sunk way, as if rendered incapable of proceeding farther. Is it to be considered as an eruption which had its origin in variolous infection, but which was prevented from going through the several stages of its parent disease, by that peculiar state of the system which previous inoculation had engendered? In short, was it a case of modified variola? I should be inclined to answer this query in the affirmative. Should the above case appear to you to be worthy your notice, you will make any use of it that you choose.

Ludlow, May 23, 1819.

Extract of a Letter from Mr Fosbrook, Surgeon, Welford on the Wey.

THE deaths in the year 1818, from small-pox, in the metropolis, are much beneath what they ever were, since the bills of mortality first appeared. The Report from the Central Committee of Vaccination in Paris is highly interesting. It has been calculated by a mathematical friend of the celebrated Las Casas, that this discovery saves, from a premature grave, 2300 daily through the earth, and that it adds three years and a fraction to human life.

Case of Poisoning by Stramonium: by Benjamin Granger, Esq. Surgeon, Burton-upon-Trent. 9th May 1819.

SIR,—A GIRL about two years and a half old lately died in this town from eating unripe thorn-apple. This is, I believe, the case which Dr Young notices in his letter to you (Vol. XV, p. 154), and the leading particulars of it are as follows: The child ate the thorn-apple betwixt five and six o'clock P. M., on an empty stomach; but the quantity taken could not be ascertained. About six o'clock it was observed to stagger, and appeared as if intoxicated. The real situation of the child, however, was not discovered till half past eight, or thereabouts, when medical assistance was immediately obtained. The symptoms were complete insensibility—dilatation of the pupils—swelling of the under lip—voluntary muscles in a state of great relaxation—respiration hurried—the extremities cold, and the pulse little or none perceptible. The torpor gave place at irregular intervals to severe convulsive fits, during which the child shrieked violently, and the voice was particularly hoarse. Full vomiting was excited, and a considerable quantity of stramonium was thus dislodged from the stomach, but without any return of consciousness or any abatement of the symp-

toms. At one in the morning the paroxysms of excitement of the brain, which produced the convulsions, had ceased to recur, and the jaw had become locked. At eight A. M. pulse 160, strong and regular; heat of whole surface great; eyes half closed and lifeless. At eleven A. M. pulse 120, unequal and intermitting. The child lived till three o'clock in the afternoon. On opening the body a large quantity of thorn-apple was found in the ileum; some of it in pieces that admitted of being felt through the coats of the intestine, but the greater part in a state of minute division. A great deal of the poisonous substance was intimately blended with the fluid secretions in the intestine, but as much of it as could be got away separately weighed nearly half an ounce. In the stomach only one particle of stramonium remained, and none in the duodenum or jejunum. The bladder was distended. Blood-vessels of the pia mater remarkably loaded, and more water than usual in the ventricles of the brain.

Dr Young, in his letter to you, observes, that "for all poisons which cannot be neutralized by some chemical antidotes, the administration of oil, in very large quantities, must be *the grand and general remedy.*" This opinion seems in opposition to the result of the experiments of Fourcroy and Renault; for these chemists ascertained, that animals to whom the white oxide of arsenic, mixed with *butter or fat*, was administered, died much sooner than those to whom this poison was given in combination with *any other* substance. In cases, too, of persons being poisoned with such a large quantity of opium, as in the case related by Dr Marcet in the Medico Chirurgical Transactions, and successfully treated by perseverance in the exhibition of active emetics, I cannot think that oil would be a sufficiently powerful remedy. The only case which Dr Young advances in support of his strong recommendation of oil, is one of poisoning by stramonium.—Castor oil was the principal remedy employed, and the patient (a boy about two or three years old) was not a day in recovering his usual health. So slight a case of poisoning as this appears to have been, is not, however, the best adapted to establish, in a satisfactory manner, the superior efficacy of a new mode of treatment. I say slight case of poisoning, because nearly two hours elapsed without any thing being done; yet the *narcotic* effect of stramonium did not take place. "A peculiar wildness of look, with general suffusion and *some* convulsion," were observed indeed, but *no* stupor—*no* insensibility. When a third part only of the supposed quantity of the noxious substance had been cast up, the persevering for three or four hours, without any decrease of the symptoms, in nothing more than a small dose of castor oil every ten minutes, implies the comparative mildness of the case. Dr Young does not mention the *size* of the apple of stramonium which the child took; but states, that a little more than a third part of it was discharged at one time, and the greater half in another, (that is, together, more than five-sixths); therefore the child, most probably, swallowed it piecemeal, (for it would have been more difficult if the thorn-apple had been much comminuted to have made an estimate of the quantity thrown up), and, if so, the sphere of action of the thorn-apple must have been very much contracted, whatever the size of it might be.

P. S. A good deal has been lately said about the identity of chicken-pox and the small-pox. Without pretending to argue the question, I may ask, Whether the cases of persons inoculated for chicken-pox, and, at the same time, for the small pox and cow-pox, as stated by Dr Willan, (p. 197 of his work), do not sufficiently establish the chicken-pox to be a disease *sui generis*?

Case of Cynanche Laryngea, with appearances on Dissection, by James Anders, Esq. Surgeon, Royal Nottinghamshire Militia.

Sir,—I beg leave to mention to you briefly the following apparently novel

case, on account of its similarity to those described by Dr Abercrombie in your Journal. It was witnessed by my friend Dr Travers about ten months since.

The patient was an infant eight months old, and was found with the most common symptoms of *cynanche laryngea*, a very loud croaking noise in breathing, remarkable distress of countenance, and a very quick small pulse. There was no room to hesitate in calling it a case of croup, except from the length of its duration. Antimonial emetics, calomel, warm baths, blisters, &c. were all carefully employed without lessening the violence of the disease, and the child died about the fourteenth day of the attack.

Upon dividing the integuments in dissection of the throat, a quantity of purulent matter gushed from under the knife to the amount of about half an ounce, and the sac of an abscess was found attached to the under surface of the muscles covering the thyroid cartilage, being reflected over that cartilage, and bounding nearly the extent of the os hyoides. The trachea and larynx themselves had no unusual vascularity, but contained a quantity of common mucus. The sacculi laryngis were filled with pus. This abscess, which had no doubt produced all the symptoms, was naturally and easily overlooked in the course of a customary examination of the child, but could its existence have been suspected and searched for, it might have been detected, and life, perhaps, saved by its being opened. And the case, in common with Dr Abercrombie's, strongly shews the necessity of a careful examination of the parts ABOUT the larynx, when signs of disease in that organ are met with, since we thus find that a cause may sometimes be discovered, requiring treatment so essentially different to what is usual.

Newark, 12th April, 1819.

Extract from a Letter from Robert Renton, Esq. Surgeon, Pennicuick, containing an Account of the confirmed Recovery of a Case of extirpated Fungus Hæmatodes of the Eye, and of the Sphacelated Intus-susceptio.

SIR,—As it is a matter of much importance in the history of those cases of fungus hæmatodes, wherein operations have been performed, to know, how long the good effects that result from such operations, continue in arresting the progress of so formidable a disease; may I, therefore, request you to insert this letter, along with the case I gave you in November 1818, which contains, I am still happy to say, a favourable account of the patient's recovery, to this date I saw her yesterday. She has completely regained her health and strength, and has had no return of pain in the orbit or head. The parotid and submaxillary glands seem to be in their natural state, and uncontaminated by the disease, and no fungus has protruded from the orbit.

Permit me likewise to avail myself of the opportunity which this letter affords, to inform you of the result of the case of intus-susceptio, sent to you by my son Alexander, the history of which, I believe, is to be found in the October number of your Journal for 1817. Three years have now already elapsed since the patient voided by stool a portion of his ileum, measuring upwards of eighteen inches in length; and he has been able, during the greatest part of that period, notwithstanding the loss of so large a portion of intestine, to attend to his usual labour, and has suffered no impediment in the daily discharge of it, either from weakness or pain. A continual craving for food, (a circumstance which, I have no doubt, depended in a great measure upon the destruction of the mesenteric glands attached to the portion of intro-suscepted intestine,) was one of the symptoms that harassed him longest in the progress of his recovery. The digestive organs have, however, completely recovered their natural functions; and the lankness of body, under which he laboured, is entirely removed. The food he takes yields him a natural supply of

nourishment, and he can even indulge in the use of malt and spirituous liquors, without experiencing those returns of pain in the bowels with which he used formerly to be attacked.

Extract from a Letter from Dr Richard Pearson, on the Administration of Remedies in Hydrophobia.

REFLECTING on the powerful, and almost instantaneous effect, produced on the living body, by medicinal substances injected into the veins, I sometime since suggested in a London paper, under the signature of "Medicus," * the idea of resorting to that method of treatment in hydrophobia, when the spasms render the administration of remedies by the mouth and *per anum*, impracticable. No physician can hesitate to adopt this measure, under the circumstances mentioned. It is constantly practised upon diseased horses, at the Veterinary Institution at Copenhagen; and it is remarked by the author of a valuable work on physiology, that it might be advantageously employed in medical practice in some urgent and difficult cases, in which the ordinary means of relief prove unavailing. †

Admitting the justness of this remark, the only question is, what kind of medicinal substances should be employed in this way, in hydrophobia? I would propose narcotics and antipasmodics. Among the former, aqueous solutions of opium, or of the extractum hyoscyami, or of the extractum belladonnæ; among the latter, aqueous solution of subcarbonate of ammonia, of assafœtida, or aqueous infusion of ipecacuanha, &c. all of a blood-warm temperature. ‡

It will be necessary to proceed with caution, in regard to the quantity of any of the above mentioned substances injected into the veins. Suppose, at the first, that one half as much were to be employed, as is usually given by the mouth. After waiting some minutes to see the effect, the same dose, or a double dose may be repeated, according to circumstances. The quantity of warm water in which the medicines are dissolved, for this purpose, should perhaps not exceed two drachms.

The object proposed, in injecting into the veins narcotic and antispasmodic substances, in cases of hydrophobia, is to subdue the spasms which impede deglutition. The moment this object is attained, hydrophobia ceases to be an intractable disease. It is reduced to a level with other diseases; and opportunity is then given of administering remedies, both liquid and solid, in the usual way.

The syringe should terminate in a small bent silver tube. Blumenbach has given an engraving of an apparatus, adapted to this purpose, in the first volume of his Medicinische Bibliothek.

Dr R. P.'s medical friends are giving their attention to the proposed plan; and he himself may probably soon have an opportunity of putting it to the test, several persons having recently been bitten by a mad dog in this neighbourhood.

Sutton Coldfield, near Birmingham.

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* St James's Chronicle for August 14th.

† Un sage emploi de ce moyen pourrait être très utile en médecine, pour quelques cas extrêmes où les secours ordinaires sont insuffisans. Magendie, Physiologie, Tome II. p. 345.

‡ The syringe should be kept immersed in water, of the temperature of 96 or 98 till the moment it is used, it being of great consequence that whatever is thus introduced into the circulation, be of an equal warmth with the blood.

THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

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Communications have been received from Drs Oudney, Edmonstone, Dickson, J. H. Walker, and Veitch; and from Messrs Scott, Hickman, Owen, Salter, G. N. Hill, and a Surgeon.

The following publications have been sent to us for review.

Indications which relate to the Laws of Organic Life. By Daniel Pring. 8vo. London, 1819.

Observations on Strictures of the Rectum. By W. White. Third Edition. Bath, 1820.

Practical Remarks on Yellow Fever. By G. Birnie. 8vo. Belfast, 1819.

A Report of the Practice of Midwifery, at the Westminster General Hospital, during 1818. By A. B. Granville. 8vo. London, 1819.

Further Observations on the Internal Use of the Hydro-Cyanic Acid. By A. B. Granville. London, 1819.

Medical Report of the Fever Hospital and House of Recovery, Cork Street, Dublin, for the year ending 4th January 1819. By Richard Grattan, M. D. &c. pp. 122. 8vo. Dublin, 1819.

A Treatise on Nervous Diseases. By John Cooke, M. D. in two volumes, Vol. I. on Apoplexy, including Apoplexia Hydrocephalica. 8vo. London, 1820. pp. 470.

A Letter to the Right Honourable F. P. Robinson, M. P., on the Plague and Contagion, with reference to the Quarantine Laws. By Augustus Bozzi Granville, M. D., &c. 8vo. London, 1819. pp 122.

Revue Medicale, Historique et Philosophique. Par MM. Bally, Bellanger, Berard, Bertieu, Bouquet, Delpech, Desportes, Double, Dunal, Esquirol, Gasc, Girardy, Jadioux, Laurent, Nicod, Prunelle, Rouzet. 1re Annee, 1re Livraison, 8vo. Paris, 1820. pp. 194.

Experimental Observations on the Operation of Lithotomy, with a Description of a Fascia of the Prostate Gland, which appears to explain anatomically the cause of animal infiltrations, and consequent death. By Granville Sharpe Pattison, Surgeon. 8vo. Philadelphia, 1820.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London, Vol. X. Part II. 8vo. London, 1819. pp. 438.

Practical Observations on the means of preserving the Health of Soldiers in Camp and Quarters, with notes on the Medical Treatment of several of the most important Diseases which were found to prevail in the British Army during the late war. By Edward Thornhill Luscombe, M. D. 8vo. Edinburgh, 1820.

Report of the Carlisle Dispensary for the year 1819.

A Complete Treatise on the Natural Symptoms and Cure of Lues Venerea, Historical, Theoretical, Practical, and Original. A New Edition. By Jesse Foot, Esq. Surgeon. 8vo. London, 1820.

An Address to Persons afflicted with Deafness, particularly the obscure diseases denominated Nervous Deafness. By W. Wright. 12mo. London, 1820.

Died lately, Robert Stewart, M. D., first member of the Medical Board of Bombay, who had recently returned to this country from India, after an absence of 25 years. He was a man of superior talents, and had recently published in India an Account of the Cholera Morbus, which devastated the peninsula.

The long expected work of Mr Cross of Norwich, on the Variolous Epidemic of 1819, is in the press, and may be very shortly expected to appear.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. APRIL 1820.

PART I.

ORIGINAL COMMUNICATIONS.

I.

RESEARCHES ON THE PATHOLOGY OF THE INTESTINAL CANAL.

By JOHN ABERCROMBIE, M.D. Fellow of the Royal College of Surgeons of Edinburgh.

PART II.

ON THE INFLAMMATORY AFFECTIONS.

BETWIXT a fatal case of ileus, and a fatal case of enteritis, there is usually a considerable similarity in the morbid appearances which are observed on dissection. In both we generally find a portion of intestine in a state of distention, and the distended part is more or less inflamed, with exudation of coagulable lymph, lividity, or gangrene. But when we trace more accurately the history of the two affections, we discover an important difference. We find reason to believe that ileus may be fatal in the state of distention without inflammation, and that enteritis may be fatal without distention; or, in other words, that the distention is the primary disease in the one, and in the other, the inflammation. In a former paper I have endeavoured to trace the pathology of ileus, and I have proposed various conjectures in regard to the nature and origin of the

disease. I conceive it is to be viewed as the disease of a muscular organ, originating in a part of that organ being distended beyond its power of contraction. A muscular organ thus distended passes into inflammation, as we observe in the urinary bladder. One of the sources of this distention I have supposed to be, such a debilitated state of the muscular fibres at a particular part of the canal, that they are distended before that impulse from the healthy parts above, which in their natural state would have excited them to contraction. Now, nothing, I imagine, is more likely thus to destroy the action of muscular fibre than inflammation. I do not mean to enter upon the question, whether this be a primary or a secondary effect of inflammation, but we have, in various parts of the body, ample evidence of the fact, that muscles which have been inflamed, are much impaired in their muscular action, and often completely paralyzed. If we suppose, then, a portion of the muscular coat of the intestinal canal to be thus weakened or paralyzed by inflammation, and that the healthy parts above are forcibly propelling fluid matters and flatus into this portion, we readily conceive how it is distended before this force, and the case then assumes the usual appearances of ileus. Enteritis, then, or primary inflammation of the intestinal canal, may be said to be one of the causes of ileus, or, in other words, to terminate in ileus; while, on the other hand, ileus originating in other causes, usually terminates by inflammation of the distended part; and thus the two cases, which differ widely at their commencement, are, at their termination, remarkably similar.

If these principles be correct, it will follow, that the symptoms and the morbid appearances of ileus will accompany enteritis only when the inflammation is seated in the muscular coat; and this leads us to a most important distinction in the inflammatory affections of the intestinal canal, both in regard to the seat of the inflammation, and the symptoms which accompany it. In regard to the former, we shall see reason to believe, that the inflammation may be primarily seated either in the peritonæal, the muscular, or the villous coat, giving rise to important diversities in the symptoms, and that it may spread from one structure into another, producing remarkable changes of the symptoms, at different periods of the same case. Thus, while the inflammation is confined to the peritonæal coat, it is probable that the disease may go on without interrupting the muscular action of the canal, or that the irritability of the muscular fibres may even be increased, so as to occasion diarrhœa. When the inflammation, again, is in the villous coat, the mus-

cular action may also be unimpeded, and may be still more likely to be increased; but when the inflammation in either case extends to the muscular coat, the symptoms pass into those of ileus.

These conjectures correspond with the phenomena which we observe in diseases of this class. We find inflammatory symptoms in the abdomen, connected with a natural and healthy state of the action of the intestinal canal; and we find them connected with diarrhœa. In both these conditions, the disease may be fatal without interruption of the intestinal action, and yet proofs of most extensive inflammation may be found on dissection; and, on the other hand, a case may begin with a natural state of the bowels, or with diarrhœa, and, at a more advanced period, may pass into ileus. In connection with these varieties in the symptoms, we find, in the fatal cases, diversities equally important in the morbid appearances. In many we find gangrene combined with deposition of coagulable lymph; but in some we find extensive gangrene without this deposition, while, in others, we observe such deposition in great quantity, without the slightest appearance of gangrene. Now, the deposition of coagulable lymph is probably to be considered as the result of inflammation of the peritonæal coat, while the muscular coat, I imagine, is to be viewed as the seat of gangrene. The two appearances, indeed, are very often combined, but, if this distinction be correct, it will furnish us with a criterion by which we may judge, in many cases, of the primary seat of the disease, and some singular facts occur as the result of this investigation. In those cases which are primarily inflammatory, that is, distinguished from the commencement by pain, tenderness, and fever, gangrene is not so frequent as we are apt to suppose; and it very rarely occurs uncombined with gelatinous deposition; while in those cases which begin as ileus, that is, with obstruction of the bowels, without fever or tenderness, gangrene will be found to be very common, and frequently to occur without gelatinous deposition. But, farther, it will be found, that, in several of the cases which terminated by exudation without gangrene, there was no obstruction of the bowels, or not till an advanced period of the disease, while the symptoms of ileus had existed from an early period in those cases in which there was extensive gangrene: and in case 9th, in which there were both extensive exudation and gangrene, the intestinal action was at first natural, and afterwards there occurred symptoms of ileus. These results are curious, and if they shall be verified by farther observation, they are important. They give considerable probability to the conjectures

which I have proposed in regard to the pathology of these affections,—that the inflammation may affect the whole structure of the canal, or may be confined to one of the coats;—that, when it affects the muscular coat, obstruction takes place, but that, when it is confined to the peritonæal coat, the muscular action of the canal may go on without interruption;—that the proper termination of the disease in the peritonæal coat is gelatinous exudation, in the muscular gangrene.

These principles I propose for farther investigation; and I shall at present only add a comparative view of the cases of ileus and of inflammation, which will be found in this and the preceding paper. Setting aside the cases which were connected with mechanical obstruction, I have described eight fatal cases, which were selected as exhibiting the symptoms of ileus without primary inflammation. Of these the terminations were the following:

Distention without inflammation in -	1
Distention with inflammation, slight, and quite recent,	2
Gangrene without exudation, - - -	2
Gangrene with slight exudation, - -	3

In this paper I shall describe eight fatal cases, which were selected as exhibiting primary symptoms of inflammation; and of these the terminations were,

Extensive exudation, without gangrene, -	5
Exudation, accompanied with gangrene, - -	3

In none of the former was there exudation without gangrene, and in none of the latter was there gangrene without exudation. I exclude from this comparison the remarkable case, (case 11th,) because I conceive that in it the affection of the bowels was not the fatal disease. It is highly valuable, as shewing the state of the parts when a severe attack of this kind had been recently recovered from.

These cases were originally arranged, according to their symptoms, under the two heads of ileus and inflammation, without any attention to the mode of their termination; and it was only after the first series was printed that this peculiarity in their terminations occurred to me; for, in arranging the cases of this second part, and searching for a case of primary inflammation which was fatal by gangrene without exudation, I found that I had no such example. The subject is worthy of careful investigation. It is a remarkable fact, that in all the inflammatory cases there was exudation of considerable extent; that in more than half of them it was the only morbid appearance, and

a prominent appearance in all; that of the cases of ileus, again, three were fatal without either exudation or gangrene; that gangrene occurred in all the remaining cases as the prominent appearance, and the only appearance in two out of five. The following conclusions from these facts I state at present merely as conjectures.

1. In all the cases which exhibited symptoms of primary inflammation, the peritonæum seemed to have been extensively affected; and in various parts of the body we see reason to believe, that the symptoms accompanying inflammation of membranous parts are more acute than in any other structure. Is it, then, probable that, in the acute affections of the bowels, the inflammation is primarily seated in the peritonæal coat?

2. In several of the cases of ileus which were fatal by extensive gangrene, there had been no primary symptoms of inflammation, and in some of them not till a very short period before death. Is it, then, probable, that inflammation may exist in the muscular fibres without producing acute symptoms, and distinguished only by symptoms of ileus, and that, in these cases, the symptoms of acute inflammation supervene when the inflammation extends to the peritonæal coat? Were this rendered probable, it would add considerably to our pathology of ileus, and would throw much light on the action of several remedies which are found efficacious in producing very sudden resolution of the disease, such as large bleeding and the application of cold. It would, however, still be probable that there are cases of ileus which proceed from other causes, and require a different treatment. The subject is most important. Much observation is required to throw light upon it.

3. I shall afterwards give my reasons for believing that inflammation may exist in the peritonæal coat without producing very violent symptoms. If, therefore, each of the two structures may be separately affected, and with this diversity of symptoms, it will be probable that it is when the inflammation affects both the peritonæal and muscular coats at once, that we find the combination of inflammation and ileus, which we express by the term Enteritis. It is in this sense that I mean to use the term Enteritis in the following part of this paper.

Symptoms of Inflammation in the Intestinal Canal.

Sect. I.—*Inflammation confined to the Peritonæal Coat.*

The title which I have placed at the top of this section, I merely propose as expressing the opinion which I have been

led to form in regard to the nature of the insidious and dangerous disease which I mean to describe. It differs so remarkably from the disease which is usually described under the name of Enteritis, as fully to merit a distinct investigation.

The disease begins with pain in some part of the abdomen, varying very much in its seat, its degree, and its general characters. It is sometimes nearly general over the abdomen, and sometimes confined to a particular part, as one side of the abdomen, or very frequently to the lower part, immediately above the pubis. It is increased by pressure, and, in some cases, it is little complained of, except when pressure is applied, being rather acute tenderness than actual pain. In other cases there is acute pain, which comes on in paroxysms, very violent while it continues, so as probably to occasion screaming, but going off completely after a short time, leaving only the tenderness on pressure, which is sometimes in such a degree that the weight of the bed-clothes gives uneasiness. Yet, notwithstanding this tenderness, the patient may be, during considerable intervals, free from any acute pain when he lies perfectly still, but it is excited by various exertions, as coughing, sneezing, a full inspiration, and by any motion of the body.

According to the seat of the disease, various neighbouring organs are affected. When it is in the lower part of the abdomen, it is generally accompanied by frequent painful desire to pass urine, and an acute pain extending along the urethra. Sometimes the secretion of urine is greatly diminished, or nearly suspended. There may be along with this such frequent desire to pass it as leads to the suspicion of retention, but the catheter being employed in such cases, the bladder is found empty. When the disease is in the upper part of the abdomen, there is frequently vomiting, and sometimes a peculiar convulsive eructation or belching of wind, which continues without intermission for a considerable time. But vomiting is not a regular symptom, and seems only to occur when the disease is in the upper part of the canal. Sometimes we observe hiccup and quick short breathing, probably connected with an affection of the diaphragm. The pain sometimes suddenly shifts its place, as from the region of the stomach to that of the bladder, or from one side of the abdomen to the other. In some of these cases it leaves its former seat, in others, both continue to be affected at once.

The pulse is frequently little affected, especially in the early stages. It may be from 80 to 90, or 96, but is sometimes scarcely above the natural standard. The state of the bowels varies considerably; but a leading peculiarity of the disease is,

that they are not obstructed. Sometimes there are frequent calls to stool, with scanty slimy discharges, sometimes a more copious diarrhœa, with much pain and straining, but very often, perhaps most commonly, the bowels are in a natural state, being readily moved by very mild medicines. These evacuations, however, produce no relief; on the contrary, the patient generally complains of violent pain during the operation of the mildest purgative, and after the operation is over, all the symptoms are found to be increased.

Such are the general characters of this affection. It differs from enteritis in the bowels being natural or loose; the pulse being little affected; the pain often occurring in paroxysms, so as to be mistaken for a spasmodic or flatulent affection; and in the absence of vomiting, except in certain cases formerly referred to. These peculiarities are chiefly observed in the early stages; as the disease advances they usually become less remarkable; the pulse rises, the pain becomes more fixed and permanent, the belly becomes tympanitic, and, at a certain period, obstruction takes place, and the case passes into all the usual symptoms of enteritis. It may, however, be fatal without this change; the bowels continuing regular, and the pulse from 80 to 90, until a very short time before death.

The disease, as will be seen from the cases, may be fatal in three days. On dissection we find uniformly effusion of coagulable lymph; in some cases very extensive, and frequently effusion of a turbid or puriform fluid, sometimes in considerable quantity. Gangrene is rare; and, as far as my observation extends, never occurs as the prominent appearance; it being, when it does occur, slight and partial, and always accompanied by extensive deposition of coagulable lymph. I have stated my conjectures in regard to the nature of this disease. I conceive it to be inflammation, confined to the peritonæal coat, and that, in consequence of this, the muscular action of the canal is not impeded. It may continue a considerable time, and perhaps be fatal in this state, or it may spread to the muscular coat, and give rise to the usual symptoms of enteritis.

Inflammation of the peritonæum may occur in a more limited form than in the disease which I have now described, and, according to the seat of it, may assume the appearance of disease of various organs, as the bladder, the kidney, the liver, or, when seated in the membrane covering the diaphragm, may simulate disease of the lungs. I think I have seen it in one case seated in the ligaments of the liver, and giving rise to very obscure and anomalous symptoms. When it occurs in the neighbourhood of the kidney, I think it may induce the proper

Ischuria Renalis, which is usually fatal by coma and effusion in the brain. I do not know whether inflammation may be seated in the peritonæum lining the parietes of the abdomen, without affecting the intestinal canal. I have seen some cases which I supposed to be of this nature, but I have not ascertained it. The cases to which I refer terminated favourably.

Sect. II.—*Inflammation confined to the Muscular Coat.*

There is much obscurity in the pathology of muscle, particularly in regard to the effect of inflammation on muscular fibre. Perhaps we have been too much in the habit of passing over the investigation by an indiscriminate application of the term Rheumatism. We cannot doubt that muscular fibre is liable to gangrene, but rheumatism never terminates in gangrene. It is probable, then, that muscular fibre is liable to an inflammation differing materially from rheumatism. The most remarkable example of it in the extremities is in the high inflammation which follows compound fractures, and which often terminates in extensive gangrene. We see it also in the psoæ muscles, where it generally terminates by suppuration; sometimes of such extent that every trace of muscular fibre has been lost, nothing being left but the sheath, full of purulent matter.* Though the subject be extremely obscure, I think we are warranted in supposing that the muscular fibres of the intestinal canal may be the seat of inflammation, and that it may terminate in gangrene. I have already mentioned the circumstances which induce me to conjecture that inflammation in the intestine may be confined to the muscular coat, that it sometimes exists there producing ileus, but not accompanied by symptoms of active inflammation. Did this take place in the remarkable case, (Case 3d of my former paper,) in which there was extensive gangrene, though there had been no symptom of active inflammation till a few hours before death? It is mere conjecture, but it is a point highly deserving of minute investigation.

Sect. III.—*Inflammation affecting the Muscular and Peritonæal Coats at once.*

I think we may consider it as fully ascertained, that extensive inflammation may exist in the intestine without producing ob-

* See Thomson's Lectures on Inflammation.

struction or symptoms of ileus; and it is highly probable, that, in such cases, the inflammation is confined to the peritonæal coat. On the other hand, we have seen that ileus may exist without inflammatory symptoms, while an inflammatory action seemed really to have been going on, which was probably seated in the muscular coat. When both these structures are affected at once, I think there is produced the genuine enteritis, which may be designated as a combination of the symptoms of active inflammation, with symptoms of ileus;—tenderness of the abdomen and fever, with obstruction of the bowels and vomiting. If these principles are correct, it will follow, that enteritis may appear under three forms, and this division seems really to correspond with the phenomena which meet us in the history of these affections. (1.) The disease may begin in the muscular coat, (whether originally inflammatory, or consisting of loss of action from other causes,) and may at an advanced period affect the peritonæal coat. In this case the symptoms will be first those of ileus, afterwards passing into those of active inflammation. (2.) The disease may begin in the peritonæal coat, and afterwards extend to the muscular, in which case there will be the symptoms of peritonæal inflammation passing into enteritis. This form of the disease is exemplified in Case 9th, and the appearances are such as we should expect upon the principles which I have proposed; extensive exudation of coagulable lymph combined with gangrene; and in Case 10th, in which there was the same course of symptoms, but fatal without gangrene. (3.) Both structures affected at once producing the genuine enteritis.

Sect. IV.—*Inflammation of the Villous Coat.*

This subject presents a most important field of investigation, in which hitherto little has been done. The appearances are generally, a considerable portion of the inner surface of the intestine covered with irregular patches of inflammation. These are of various extent, and are often sensibly elevated above the level of the surrounding parts. Sometimes they present on their surface numerous small vesicles, and at a more advanced period these seem to pass into minute ulcers. The symptoms appear to vary according to the seat of the disease: when it is in the lower part of the canal they seem to be nearly allied to dysentery. When it is in the small intestine there is generally a peculiar painful diarrhœa, in which watery matters pass through in large quantity, with much pain and straining, any thing taken into the stomach exciting an irritation which

continues till it be thrown off. There is generally fever and thirst, and sometimes vomiting. It appears to be a common and fatal disease of infants, not easily distinguished in its early stages from their common bowel complaints,—very untractable, and frequently terminating by coma. In adults the disease occurs both in an acute and chronic form. The latter I suspect is not uncommon. I shall afterwards describe several examples of it, both in the state of simple inflammation and ulceration. The former, I believe, is more uncommon in adults as an idiopathic disease, but it seems to occur as a symptomatic affection in cases of malignant typhus. I mean afterwards to attempt an outline of this important subject, and only refer to it here in this superficial manner, in connection with the subject of this paper, to introduce the remarkable case (Case 13th) in which this affection seemed to pass into enteritis.

Examples of the Leading Varieties of Inflammation of the Intestinal Canal.

I.—Extensive Peritonitis with Diarrhœa.

Case I.—A woman, 30, a servant, unmarried, after being feverish for a day or two, was seized, on 8th December 1817, with diarrhœa, accompanied by considerable pain. On the 9th the diarrhœa continued; the pain was severe, and was increased by pressure. Pulse 90. Took some purgative medicine, which was vomited, and at night was bled to ℥xii. I saw her for the first time on the 10th, when I found her sinking. Pulse very frequent, and feeble; features contracted; a good deal of pain; some vomiting; belly tympanitic. Died at night. *Dissection.*—There were most extensive marks of peritonæal inflammation; nearly the whole surface of the intestinal canal being covered by a coating of coagulable lymph, which extended also over the convex surface of the liver, and over the whole surface of the spleen. It was in greatest quantity about the right side of the colon.

To this very important case I consider the two following as analogous.

Case II.—A girl, aged 16, had been for a week or two observed to be considerably fallen off in her appearance, and was affected with diarrhœa, which was frequent and severe, and had resisted various remedies. (4th September 1819.)—The diarrhœa continued, with considerable pain, which was most severe round the umbilicus. The

abdomen was tense and painful on pressure; the tongue was clean; the pulse rather frequent; but the appetite was unimpaired, and the girl was going about her usual employments. She took some opiates, and a blister was applied to the abdomen. (5th.)—Little change. (6th.)—Pain more severe; twisting round the umbilicus, and much increased by pressure. Diarrhœa increased; evacuations watery, copious, and rather dark-coloured; pulse 120, and small; abdomen tense, and a little tumid. Was bled to ℥xv. (7th.)—Symptoms much relieved. Blood buffy and cupped. From this time she continued to improve till the 14th, when the pain suddenly returned with great severity, increased by pressure, and accompanied by dysuria. Bowels open; pulse 112, and small. Was bled to ℥xv. (15th.)—Pulse 100; pain in the region of the bladder, extending along the urethra, with dysuria; bowels moved repeatedly and copiously; evacuations pretty natural; abdomen still tender. Was bled to ℥xii., and blistered. Blood buffy and cupped. (16th.)—Symptoms relieved; took an opiate. Pulse being still frequent, began to take digitalis, and in a few days was free from complaint.

Case III.—A lady, aged about 40, complained of frequent diarrhœa, accompanied by violent pain over the whole abdomen, especially the lower part. The pain was aggravated before the evacuations took place, but it was never gone, and it was sometimes aggravated without evacuation; it was increased by pressure. Pulse about 108; tongue dry, with thirst; no vomiting. Evacuations extremely frequent, copious, and varying in appearance, being sometimes dark, watery, and offensive, sometimes whitish. I have no notes of the particular details of this case. It was treated by blood-letting, which was repeated three times; the pulse then came down, and the pain and tenderness of the abdomen were removed, after which the natural state of the bowels was restored by the usual means.

II.—Peritonitis with a Natural State of the Bowels.

Case IV.—A girl, aged 15. On Sunday, 2d March 1817, was at church in her usual health; in the evening complained of some pain of the abdomen. (3d.)—Had pain of the belly and some vomiting; took castor oil, which operated copiously. (4th.)—Pain continued, with some vomiting, but not urgent, and the complaint excited no alarm. Bowels open. Was seen by a medical man, who found her pulse 116, and very small, and the belly painful on pressure. (5th.)—Belly tense and tympanitic; symptoms not relieved. Was bled without benefit. Sunk rapidly, and died at night. I did not see this case during the life of the patient. I was present at the examination of the body. *Dissection.*—On opening the abdomen the whole of the small intestines presented one smooth uniform surface, being firmly glued together, and the interstices filled up by an immense deposition

of coagulable lymph, which was quite soft and recent; the mass also adhered to the parietes of the abdomen. There was a similar deposition, though in smaller quantity, on the surface of the great intestine, and was traced nearly to the extremity of the rectum; it also appeared on the surface of the liver. The omentum was inflamed and dark-coloured, and there were considerable marks of inflammation on the peritonæum lining the parietes of the abdomen.

Case V.—A girl, aged 15. (12th May 181 .)—Had fever, with pneumonic symptoms; was bled with relief; the fever subsided gradually, and on the 19th she was considered as well. On the 20th, at night, she complained of some pain of the belly, which soon went off, and through the night she felt no uneasiness. (21st.)—Had violent pain, with vomiting; pulse frequent; pain increased by pressure. Took some laudanum, and afterwards purgative medicine. The vomiting subsided after the laudanum; the pain was much alleviated, and was only complained of on pressure. The purgative medicine did not operate during the day, but operated in the night four or five times. I saw her for the first time on the morning of the 22d, and found her moribund. Pulse not to be counted from its weakness; features collapsed; belly tympanitic. Died in less than an hour after the visit. *Dissection.*—The bowels in several places, especially on the ileum, were inflamed with effusion of coagulable lymph. At the lower end of the ileum, about an inch from the caput coli, there was an inflamed portion, in the centre of which there was a white spot the size of a shilling, and in the centre of this spot a round aperture, which admitted a small quill; the edges of it were rounded and a little thickened. Much fluid feces and gas had escaped into the cavity of the peritonæum, and the bowels were not distended. There were in some places a few livid spots, but no gangrene.

Case VI.—A man, aged 50, had acute pain of the hypogastric region, with dysuria. After the operation of a dose of castor oil, on the following day the pain was so much increased, as to produce writhing of the body: urgent ineffectual efforts to pass urine; pulse natural. Relief was obtained from the warm bath, after which urine was voided. 3d day, Pain and dysuria continued; pulse nearly natural; bladder found empty by the catheter. (4th.) Copious evacuations by stool; some high-coloured urine passed; pulse 90 and soft; tongue white. (5th.) Pain returned after a saline purgative, which operated scantily; it was chiefly referred to the left iliac region; increased by pressure; restlessness; much flatus from the stomach; some vomiting on taking anything; pulse 96, in the evening 84. (6th.) The pain had shifted to the right iliac region; pulse 124, small and weak; features collapsed; body cold; died at 4 P.M. *Dissection.*—Much exudation and adhesion over the whole surface of the bowels. The ileum, cæcum, and colon, were injected with

numerous blood-vessels, in some places so as to acquire a dark colour, but the texture remained entire and firm. The appendiculæ pinquedinosæ were injected and covered with a viscid effusion, communicating the appearance of a mass of disease. The external and posterior portion of the bladder appeared also a little injected; other viscera natural. *

Case VII.—A woman, aged 45, (26th October 1816,) had frequent vomiting, and pain across the epigastrium, which was increased by pressure, by motion, and by a full inspiration; pulse 84; tongue white; bowels had been moved in the morning. Was bled to ℥xii. and took laxative medicine.

27th. Vomiting subsided; pain not relieved, but extended farther down over the abdomen; much increased by pressure; pulse 84. Was bled again, but only ℥vi. obtained; took castor oil.

Vespere.—Bowels moved fully five or six times; evacuations at first scybalous, afterwards thin and feculent. Severe pain, occurring in paroxysms; great tenderness over the whole abdomen; tongue white; pain excited by a full inspiration, and by motion; pulse 84, of good strength. Was bled to ℥xx.

28th. All the symptoms relieved; bowels open; was well in a few days.

Case VIII.—A gentleman, aged 25, (18th September 1816,) was affected with pain in the bowels, and frequent desire to go to stool, with scanty slimy discharges; pulse natural; took castor oil, which produced several stools, thin, feculent, and pretty copious; pain of the belly continued, not constant, but occurring in paroxysms, and aggravated by motion; belly painful when pressed; pulse then 80; considerable dysuria. Was bled to ℥xvj. and took a moderate opiate.

19th. Easy in the night, but in the morning the pain returned with such violence as to occasion screaming and extreme distress; it was chiefly about the umbilicus, but sometimes shifted to the stomach; violent pain in the region of the bladder, and extending along the whole course of the urethra; much dysuria; some vomiting; belly very tender; pulse from 90 to 100; several feculent consistent stools after a mild enema. Was bled to ℥xvj.; took gr. x. of aloes. After the bleeding, the violent pain subsided; the tenderness continued; repeated vomiting; and occasional short paroxysms of pain; dysuria continued, and at one time amounted to retention, which was relieved by a mild enema; bowels open; took an opiate at night.

20th. Much depression; sickness and faintness; belly tender and a little tympanitic; lay on his back, but could not bear the pressure of the bed-clothes; dysuria abated; no constant pain, but occasional

* This important case is by Dr Marshall Hall. For the more particular details of it, see Vol. XII. of this Journal, p. 426.

paroxysms of short duration; respiration short and quick; countenance anxious; voice feeble; pulse 100; tongue foul; some vomiting; on taking a full breath, felt severely pained and cramped across the epigastrium. Was bled to ℥xii.; took some aloes, and at night gr. vi. of calomel.

Was much relieved after the bleeding; belly bore pressure; breathed more freely, and spoke more vigorously; pulse 100; tympanitic feel gone; discharged much flatus, and bowels were moved once.

21st. In the early part of the night was restless, with delirium and frequent vomiting. In the morning his bowels were moved four or five times, with much relief; pulse 80; all the symptoms abated. From this time continued well; discharged much hardened feces for several days.

In this important case, I believe the bleeding ought to have been repeated on the evening of the 19th, and the opiate seemed to be rather injurious.

III.—Peritonitis passing into Enteritis.

Case IX.—A gentleman, aged 20, (3d September 1812,) was affected with pain in the lower part of the belly, increased by pressure; bowels regular; pulse from 84 to 90; complaint began on the 2d; was bled freely, and took laxative medicine, which operated fully.

4th. Pain much relieved, but not gone; pulse 90; bleeding was repeated, and a blister applied.

5th. 6th. Pulse natural; complained only of occasional griping pain; took laxative medicines, which operated; the stools were green and watery, but copious.

7th. Free from complaint in the morning; bowels open; but the stools were still green and watery. In the afternoon complained that some laxative medicine produced most unusual pain; and at night had fixed pain in the upper part of the belly, with shivering, followed by heat; pulse 84. Through the night had copious feculent evacuations, without relief of the pain; vomited repeatedly.

8th. Pulse 96; fixed pain in the upper part of the belly; the whole abdomen was hard and painful on pressure, and a little tympanitic; repeated vomiting. From this period the bowels became obstructed, and the case resisted every active remedy; repeated blood-letting; blistering; cold applications; purgative injections; tobacco injections; various purgatives, &c.

9th. Pulse 100; pain unabated, but bore pressure better; belly tympanitic; vomiting abated; no stool, except some very scanty discharges of watery matter. At night, the pulse rose to 126; features contracted; belly swelled and tympanitic; hiccup; pain much abated. In the night the bowels were moved. Sunk gradually, and died at 9 o'clock on the morning of the 10th. *Dissection.*—All the intestines much distended, and glued together at every part by most extensive deposition of coagulable lymph; omentum highly inflamed,

and adhering to the intestines. At the lower end of the small intestine an extensive portion was gangrenous, and another at the lower part of the colon before it forms the sigmoid flexure. At this place the posterior part of the intestine, and a portion of the mesentery, were considerably thickened. The appendix vermiformis was gangrenous, and an opening had taken place in it, through which liquid feces had escaped into the cavity of the abdomen.

Case X.—A gentleman, aged about 20, (10th December 1817, late at night,) was found writhing and screaming, from violent pain in the abdomen, every part of which was tender to the touch; great pain and difficulty in making water; frequent vomiting; pulse 96, soft and rather weak; had felt pain for several days, but it increased on the evening of the 9th, with vomiting; took laxative medicine in the morning of the 10th, which operated freely three or four times, but since these evacuations the pain was much increased. Was largely bled, and took a moderate opiate.

11th. Much relieved; no vomiting; pain much abated; pulse 90, and of good strength. Bleeding was repeated; a mild enema.

In the course of the day, had some violent paroxysms of pain, and vomited twice; belly bore pressure better, except at one spot at the lower part of the right side, where it was acutely tender; urine passed more easily; pulse at night, 96: bowels moved: evacuation thin and feculent. Bleeding was repeated at night; cold applications to the abdomen; blister; mild enema.

12th. Pulse 90; no stool; less pain, but much tenderness of abdomen; very little vomiting; no tumefaction of abdomen. Two small bleedings, no more being borne; large blister; various laxatives.

13th. Pulse increasing in frequency, and becoming feeble; abdomen enlarged at the lower part, as if the bladder were distended, but by the catheter it was found to be empty; abdomen still tender; no stool; urine very scanty, and passed with much pain. Tobacco injections and various purgatives were employed.

14th. Pulse 120; no stool; no urine; belly tympanitic; lay through the day in a state of great exhaustion, with much vomiting, and died at night.

Dissection.—Extensive inflammation of the ileum, the inflamed parts extensively glued together, and pressed down into the pelvis by the distention of the parts above, which were inflamed also, but with less exudation; no gangrene; bladder inflamed and collapsed; omentum inflamed; about 1 lb. of puriform fluid in the cavity of the peritonæum.

IV.—Enteritis.

Case XI.—A young lady, aged 18, (4th March 1813,) complained of pain in the lower part of the belly, increased by pressure. Pulse 126. Some vomiting.

Was bled largely, and took laxative medicine; soon after had one stool; but, the pain and fever continuing, the bleeding was repeated at night, and the other usual remedies ordered.

5th. No relief; no stool. Pulse 120. Various laxatives, cold applications, tobacco injections, &c. were used without benefit, except that the cold applications to the abdomen (iced water) produced great alleviation of the pain.

6th. No stool; much pain; great paleness and sinking. Pulse 120. Various purgatives and injections were persevered in.

7th. Began to discharge after the injections some green slimy matter. Pain as before; pulse 120; countenance depressed and pale.

From this time the pain began to subside, and the pulse to come down gradually. On the 11th it fell to the natural standard. By persevering in the use of laxative medicines and injections at short intervals, the bowels began to yield, and on the 12th were fully moved four or five times.

From the commencement of her illness she had been affected with a pain in the left ear, and about the seventh began to complain of violent headach. This increased gradually; and on the 22d she died of an affection of the brain, which I have formerly described, (Obs. on Chronic Inflam. of Brain, case 11th.) From the 12th to the 22d, the bowels continued to discharge their functions in the healthy manner. *Dissection.*—The caput coli, and about eighteen inches of the lower end of the ileum, were of a dark livid colour, but not altered in their structure. Intestines in other respects were healthy.

Case XII.—A child aged 3 years and 3 months. (12th February 1812.)—Was affected with urgent vomiting and great thirst, all the liquid taken in being vomited almost immediately, mixed with large quantities of light green fluid. Pulse very frequent. Countenance sunk and anxious. Complained of no pain. She had been unwell for four or five days, but slightly. Took laxative medicine on the 9th, which operated freely. On the 10th seemed much better, and the bowels were quite open. Complained once of pain in her bowels, but had not mentioned it again. Vomiting began late on the evening of the 10th, and was very urgent through the whole of the 11th. Bowels had not been moved since the vomiting began.

The usual remedies were employed without benefit. The vomiting continued urgent, and the bowels obstinately obstructed. 13th.—Vomiting abated; medicines retained, but no effect from them. She continued through the day at times restless and feverish, at others oppressed and exhausted. Died in the night.

Dissection.—Stomach externally healthy; internally slightly inflamed, and containing much dark-coloured fluid. About a fourth part of the small intestine, at the upper part, was lightly inflamed; in many places black and gangrenous; in others, adhering from effusion of coagulable lymph. The diseased portion was greatly distend-

ed, and contained much dark-coloured fluid, but no feces. Immediately below this part the intestine became at once completely contracted, empty, and of a white colour, except a few streaks of superficial redness.

V.—Inflammation of the Villous Coat passing into Enteritis.

Case XIII.—A woman, aged 38, had been for more than a week affected with fever, want of appetite, and frequent diarrhœa, with much pain, when, on 13th June 1819, she was suddenly seized with most violent pain of the abdomen, especially about the lower part; but it afterwards extended over the whole abdomen. On the 20th the pain continued most violent, and was increased by pressure and by inspiration. Pulse 130; urgent vomiting. An attempt was made to bleed her, but very little was obtained, and soon after the pulse sunk, with coldness of the body; some discharge from the bowels. (21st.)—I saw her for the first time. Pain still severe; urgent vomiting, and hiccup; bowels obstructed; pulse 140. Died in the afternoon. *Dissection.*—Extensive inflammation on the outer surface of the small intestine, especially at the lower part, where there was considerable exudation and gangrene. Extensive inflammation of the inner surface in various places; and the inflamed portions were covered with minute ulcers or erosions. At one place, at the lower part of the ileum, there was a more extensive destruction of the villous coat, about the size of a shilling; this portion was surrounded by a ring of inflammation, with numerous small ulcers, and in the centre of it there was a small opening which perforated the intestine; the outer surface at this place was of a dark livid colour.

The high importance of the subject must be my apology for detailing so many examples, calculated, I trust, to illustrate the pathology of this most insidious and dangerous disease. They seem to warrant various pathological conjectures and important practical conclusions, both of which I must propose very briefly.

I.—*Pathological Conjectures.*

(1.) It is probable that intestinal inflammation may be primarily seated either in the peritonæal, the muscular, or the villous coat,—that it may be for a considerable time confined to one of them; and may afterwards pass from one to another, or may affect all the three.

(2.) It is probable that the terminations of inflammation are, in the peritonæal coat gelatinous exudation and serous effusion;

in the villous, erosion or ulceration, sometimes with exudation; in the muscular, gangrene.

(3.) It is probable that, when the inflammation is confined to the villous coat, the action of the canal is increased,—when to the peritonæal coat, that it may be increased, or may be natural,—that, when it affects the muscular coat, the action is impeded so as to produce obstruction or ileus.

II.—*Practical Conclusions.*

(1.) Extensive and highly dangerous inflammation may exist in the intestinal canal without obstruction,—may exist and go on to a fatal termination while the bowels are spontaneously loose, or are easily moved by mild medicines.

(2.) No diagnosis can be founded in such cases on the appearance of the evacuations; they are sometimes slimy and in small quantity; sometimes copious, watery, and dark coloured; and sometimes quite natural.

(3.) Extensive and highly dangerous inflammation may be going on with every variety in the pulse. It may be frequent and small, it may be frequent and full, or it may be little above the natural standard through the whole course of the disease.

(4.) Extensive inflammation may go on without vomiting and without constant pain, the pain often occurring in paroxysms and leaving long intervals of ease.

(5.) The peculiar tenderness which marks inflammation is the principal guide of the practical physician. Whenever this occurs, whatever may be the state of the pulse, and whatever the condition of the bowels, a disease is going on which will require his most eager attention, and his most active remedies.

Outline of the Treatment of Intestinal Inflammation.

In the treatment of this affection it is of essential importance that our attention be steadily and precisely directed to the real disease with which we are contending, and be not distracted by circumstances which may be considered as occasional effects of it. The disease is inflammation; and to subdue that is our great, our leading object in the treatment. An effect or concomitant by which our attention is apt to be distracted in many cases, is obstruction of the bowels. Now, this obstruction is not the disease,—it is only an effect of it, and an effect which, even

in the severest cases, is often wanting. This we have seen in various examples. We have seen the bowels obstructed,—we have seen them natural,—and we have seen them spontaneously loose; and under these various circumstances we have found the disease going on with equal certainty, and equal rapidity, to a fatal termination. We have seen no reason to suppose that the retention of feculent matter was injurious in the one case, or that the copious evacuation of it was productive of the slightest benefit in the other. On the contrary, there are facts which must lead to a suspicion that the action of purgative medicine upon the intestinal canal, when it is in a state of inflammation, rather tends to increase than diminish the disease. I do not assert that this principle is applicable to every case without discrimination. There may be examples in which acrid and irritating contents are acting injuriously, and there may be cases which supervene upon ileus, to which perhaps other principles must be applied. But I think it must be admitted that, in the ordinary cases of enteritis, the obstruction of the bowels is the immediate result of the inflammation;—that it is to be removed by subduing the inflammation, and by this only,—and that, could it be removed by any other means, it would in no respect improve the situation of the patient, as the original and highly dangerous disease would remain unchanged. On this important and delicate point I would not speak with unbecoming confidence; but I do submit, whether the whole phenomena of abdominal inflammation do not lead to the impression, that the use of purgatives is no part of the treatment in the active stage of the disease, and whether they are not likely to be injurious rather than beneficial. Even in the cases in which there is no obstruction, but in which mild purgatives operate readily, the patient generally complains of aggravation of the symptoms after their operation. How much more likely is this to occur in cases of proper enteritis, in which active purgatives are often given in repeated doses without avail? If benefit in these cases be expected from evacuation of the bowels, that benefit is not obtained, while there can be little doubt that an additional cause of irritation is thrown into the diseased parts; and why is this object thus defeated? because there exists in the intestine itself a disease which prevents its action, and which prevents purgatives from producing their usual effects. It would no doubt be desirable, in many of these cases, that the canal were freed from the presence of feces; but the question is, whether the injury from their presence can be compared with that which must arise from violent and ineffectual efforts to expel them,—from violent and ineffectual excitement of parts which

are already in a state of active inflammation. I have formerly referred to a fact which is also of essential importance in this inquiry; that, when purgatives do operate in cases of this kind, they generally bring off nothing but watery matters; and that it is only after the disease is subdued, and the bowels have recovered their healthy action, that solid feces are thrown off, which, we have every reason to believe, had been lodging from the commencement of the disease. There are, then, two views of this important subject which I submit for investigation and inquiry. (1.) That in the cases which I have considered as peritonitis, in which purgatives operate fully, we have no reason to consider their operation as beneficial during the active stage of the disease. (2.) That in the cases of proper enteritis their operation is defeated by the very disease with which we are contending.

In the treatment of enteritis, indeed, it is of essential importance that the intestines should be kept free from distention; but it is a point deserving most attentive inquiry whether this may not in general be done by means which are both safer and more effectual than the use of purgatives; particularly whether there be not, in the ordinary cases of enteritis, an action in the healthy part of the canal itself, which would answer every purpose that can be desired, did there not exist some great obstacle to its action, and whether our object ought not to be to remove this obstacle rather than to increase the action itself. The obstacle arises from the deranged action of the inflamed parts, and the chief means by which it is to be removed are those by which we subdue the inflammation; but there is a powerful auxiliary, which I think is calculated to answer the purpose for which purgatives are given, and that is the tobacco injection. I have formerly alluded to the precautions with which this very powerful remedy ought to be administered; the great advantage attending the use of it in enteritis is, that, while it tends to move the bowels and keep them free from distention, it is, at the same time, powerfully calculated to allay vascular action, and may thus assist in keeping down the inflammation.

These principles I submit for farther investigation. Several facts which I have related certainly give considerable reason to believe, that, when the intestinal canal is in a state of active inflammation, the tendency of purgatives is rather to increase than diminish the disease; and I think I am warranted in proposing this rule,—that they are not to be considered as a part of the treatment of enteritis, but rather to be avoided, if it be possible; that is to say, except there exist some strong and decided reason for having recourse to them. What the cases are

in which such reasons exist must be left to the judgment of the practitioner; perhaps in those which have supervened upon long continued costiveness or ileus, and when there is such a distention of the bowels with flatus or other matters, as must be highly injurious. In such cases, if we fail in obtaining the desired effect from the tobacco injection, or mild laxative injections, mild purgatives may be necessary, after the first activity of the inflammation has been subdued. But in how many instances are these causes wanting?—Do we not often see enteritis supervene upon the powerful operation of a drastic purgative, especially on exposure to cold after such operation? And in how many cases do purgative medicines which have been taken on the first appearance of the symptoms operate fully? To push the use of purgatives in such cases would be manifestly unnecessary, and probably injurious. The disease which we have, then, to contend with, is simply inflammation, and it must be combated in the most active manner by the appropriate remedies. These are few and simple; the most important is bloodletting, repeated according to the urgency of the symptoms and the strength of the patient. Of local remedies, large topical bleeding and blistering are often extremely beneficial. In a considerable number of cases I have used with evident advantage the application of cold, by covering the abdomen with cloths wet in cold water or iced water, or by pounded ice in a large bladder. Of iced water given by injection I have had little experience, but I believe it to be a remedy deserving of attention. The inflammation being subdued, the bowels are then to be moved by gentle laxatives, aided by mild injections. This, however, is often a matter of considerable difficulty, arising, I imagine, from a weakened or paralysed state of the muscular fibres, which has been produced by the inflammation. I cannot say with confidence what is the best mode of treatment, but I think that mild medicines, in moderate doses, repeated at short intervals, and steadily persevered in, succeed better than the more powerful. Perhaps long-continued friction of the abdomen may be useful, and warm-bath. Our object should be to produce natural and healthy evacuation, and nothing more. Strong purging may be followed by a tympanitic state of the abdomen, not to be recovered from.

In all cases of active inflammation, bloodletting can be of little avail except it be used at an early period, and pushed to such an extent as to make a decided impression upon the system, indicated by weakness of the pulse, paleness, and some degree of faintness. During this state of collapse, an impression is made upon the disease, which, however, is often lost, as soon

as the circulation has recovered its former vigour. On this account, in every inflammation of a vital organ, it is, I think, of essential importance, that the first bleeding be carried to such an extent as to make a most decided impression, and that attention be paid to prevent this advantage from being lost, by repeating it after a short interval, whenever the effect of the former begins to subside. In various inflammatory diseases I have used with manifest advantage the following method. The treatment is begun with a full bleeding, which produces weakness of the pulse and a considerable degree of faintness; the latter soon subsides, but the pulse continues weak for a longer time. Whenever it begins to recover from this weakness, a small bleeding is repeated, so as again to break the force of it, and for this purpose, perhaps, no more may be required than five or six ounces. Such a bleeding is again repeated at another very short interval, and so on till we have reason to believe that the disease is subdued. The advantage of this method is twofold. (1.) By thus keeping up the effect of the first bleeding, the disease is likely to be checked at a very early period; and, (2.) The quantity of blood that is lost, is in the end much smaller than may often be required under other circumstances. For if, instead of this, we allow the patient to lie after the first bleeding ten or twelve hours, or even a shorter period, the effect of it is often entirely lost, and it is then necessary to repeat it to the same extent as before. Twenty ounces of blood may be required upon this method for producing that effect upon the system, and, consequently, on the disease, which, on the other, may be procured from five; and, besides this, in the interval the disease has been gaining ground, its duration is protracted, and the result consequently rendered more uncertain. The inflammation of a vital organ should not be lost sight of above an hour or two at a time, until the force of it be decidedly broken; and except this take place within the first twenty-four hours, the termination of it must be considered as doubtful.* On this important subject I shall only add the following beautiful illustration of the effect of bloodletting in inflammatory diseases. A man, aged 24, after being for several days affected with acute rheumatism, was seized with a strong pulsation in the region of the heart, which, after two days, was accom-

* In a violent inflammatory case, in which it is probable that repeated bleeding may be necessary, great benefit is obtained from the very simple expedient of inserting a little ointment between the lips of the orifice after the first bleeding. Adhesion is thus prevented, and blood may be taken from the same orifice many times.

panied by acute pain in the same situation, and anxious oppressed breathing. These symptoms had continued one day when I first saw him; the pain was violent, and impeded respiration; the breathing was so much oppressed as to prevent him from lying down, and the pulsation of the heart was so violent that it could be felt by the hand over every part of the thorax, and even on the upper part of the abdomen. The pulse was 106, and intermitted about twelve times in a minute. Several of his joints were still affected; his feet and ankles particularly were swelled and intensely painful, incapable of bearing the slightest touch or motion, and in a state of high vivid inflammation, resembling erysipelas. He was bled to above thirty ounces, which he bore without faintness. Two hours after I found the symptoms somewhat relieved, but by no means removed, and the inflammation of his feet as before; the pulse 112, and strong. He was then bled to eighteen ounces. When that quantity was taken he became extremely faint, and the pulse exceedingly weak; and he lay in that state of faintness for upwards of half an hour. During this time every symptom in the thorax was removed, and the inflammation of his feet completely disappeared; they became of a pale and natural colour, and could be pressed or moved in any way without uneasiness. On the following day he continued well. After another day or two the rheumatic affection returned to his ankles, but in a slight degree, and without fever, and it soon yielded to the usual remedies. The value of this case depends on the beautiful illustration, furnished by the disease on the ankles, of what was probably going on within, and of what probably takes place in every internal inflammation when the remedies are employed in a decided manner.

Before I conclude these very general remarks, I would briefly allude to some circumstances which often occur during the treatment of enteritis, and which are apt to embarrass the young practitioner.

1. The pulse continuing very frequent after the local symptoms appear to be considerably subdued by repeated bleeding. While this continues there is always danger of the inflammation being renewed. In this state digitalis is given very freely with much advantage.

2. A tympanitic state of the abdomen. If this occur before the inflammation is subdued, the prognosis is extremely unfavourable. But it may occur after the disease is checked, from a temporary derangement of the muscular action. It, however, requires most minute attention. Gentle friction may be employed, and the pressure of a roller. Mild injections are useful,

to which a little assafœtida may be added; but I think I have seen the greatest advantage in this condition from injections containing bark in powder in large quantities. Mild laxatives may be given, but medicines that would act strongly are to be avoided. These excite for the time, but when their action is over the parts are only still farther exhausted, become again distended, and may pass into gangrene. The disease is a loss of muscular action which is left by the inflammation, and it requires the most delicate management. It has frequently an alarming appearance, and may leave for a considerable time a deranged action of the parts, which often assumes the characters of organic or mesenteric disease. A boy, aged six, had acute pain in the abdomen, much increased by pressure and by inspiration; short, anxious breathing; pulse extremely frequent. He was bled from the arm, and took some laxative medicine which operated, and he was very much relieved. He then did well for two days, when, on visiting him at night, I found him oppressed and restless; countenance anxious; pulse above 140; the belly enlarged and tympanitic, and painful on pressure. Injections, containing bark in powder, and some tincture of assafœtida, were given every three hours with great relief, with friction, &c. Under this treatment the affection soon subsided, and in a few days he was able to be out of bed, but he continued feeble and sallow, with some cough, bad appetite, frequent pulse, and a withered emaciated appearance. Being sent to the country he recovered gradually, and is now in perfect health, but he continued in the state which I have mentioned for several months. I am persuaded that many cases, especially in children, which assume the appearance of mesenteric disease, depend upon a morbid condition of the muscular action of the canal, which impedes the process of digestion and assimilation. It is treated by good air and exercise, tepid bath, friction of the abdomen, with gentle compression, and vegetable bitters, as the colombo powder, combined with small doses of rhubarb or aloes.

3. A state different from the former, in which the abdomen is somewhat enlarged but hard, almost resembling, in some cases, a mass of organic disease. This is a formidable symptom, but if it occur after the inflammation is subdued it may be recovered from. The nature of it is obscure. It is certainly connected with some degree of intestinal distention, but it is not tympanitic; it is hard and tense, sometimes painful on pressure, and has an alarming appearance. A young man, aged 17, whom I attended in a severe attack of enteritis, was free from complaint about the 7th day from the attack. On the 9th his pulse began to rise again; and his belly, especially about

the lower part, became enlarged, very hard, and painful on pressure; the bowels open; his pulse, when sitting up, 120. In this state, in spite of every remonstrance, his friends carried him to the country. I expected to hear of his death, but the affection gradually went off, and he returned to town, in a few weeks, in perfect health.

4. Cessation of the pain, sinking of the vital powers, great weakness of the pulse, and coldness of the body. These are generally considered as indicating gangrene, and, consequently, a hopeless state of the disease. I have in the former paper on ileus produced evidence of the most important principle, that these symptoms do not necessarily indicate gangrene. I have shewn them connected with inflammation which was slight and recent, and I have shewn them recovered from. I shall now only add the following example. A man, aged 40, was affected with enteritis in the usual form, for which he was treated in the most judicious manner by a respectable practitioner. On the 5th day the pain ceased; the pulse was 140, and extremely feeble and irregular. His face was pale, and the features contracted, and his whole body was covered with a cold perspiration; his bowels had been moved. In this condition I saw him for the first time. Wine was given him to the extent of from two to three bottles during the first twenty-four hours. On the following day his appearance was improved, his pulse 120, and regular; the wine was continued in diminished quantity. On the third day the pulse was 112, and in a few days more he was well.

In a case such as this there could be no doubt as to the only mode of practice that could be attempted, but there are cases in which, at a particular period of the disease, wine is given with much advantage, though the symptoms are much more ambiguous; and it is often extremely difficult to decide upon the plan which ought to be adopted. A lady, aged about 35, on the 7th day after delivery, was seized with violent pain over the whole abdomen, most severe across the stomach and towards the right side; much tenderness on pressure; urgent vomiting; great restlessness; respiration short and oppressed; pulse 140, and sharp. The pain was aggravated by inspiration, and by every motion of the body. She was bled and blistered, and took laxative medicine, which operated freely. After the bleeding she was very much relieved; could breathe without uneasiness; the vomiting subsided, and the pulse was much diminished in frequency. This was in the night. On the following day the pulse rose to 150; the breathing was quick, short, and oppressed; some vomiting; countenance anxious; there

was neither pain nor tendernesss of the abdomen, which was to the feel soft and natural; lochia natural. Wine was given in the quantity of a small glass every hour; and injections of beef-tea, each containing ℥ss. of bark in powder, and 60 drops of laudanum. These were repeated as often as they were discharged, which was generally from one to two hours. After some hours the symptoms were improved. Next day the pulse was from 125 to 130; on the third day from 112 to 120. Thus she gradually recovered, having continued to take a bottle of wine in each twenty-four hours. For some time she suffered severely from an aphthous state of the mouth and throat, accompanied by burning uneasiness at the stomach, and pain in the bowels. These complaints yielded to a decoction of logwood.

II.

On the Doses of the Ancient Physicians. By E. Milligan, M. D. Lecturer on the Institutions of Medicine.

Happening, during last summer, to look into some ancient writers on medicine, my attention was particularly attracted by a feature of their practice of which I can no where meet with a satisfactory explanation. As the subject seems curious, it may, perhaps, be worth while to notice briefly in this Journal the results of a hasty inquiry into its origin and reality. To those possessed of more ample means of information they may appear jejune and puerile: and if any such condescend to correct their errors, by the same channel in which they are now humbly offered to their notice, I shall candidly acquiesce in this imputation.

The difficulty here alluded to occurs in the doses of medicines exhibited by the ancient physicians. These have long been observed to be very large; * and it was on remarking the impossibility, according to our ideas, of exhibiting them with safety to human life, or even of escaping destruction under their influence, that my observation was first drawn to the subject of ancient posology.

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* Arbuthnot on Ancient Weights and Measures, p. 286.

Dioscorides, who lived under Nero, and who, as he informs us, had attended to the subject of the materia medica from his earliest years, may be taken as indisputable authority on this point; especially, as we are informed by Suidas, that he practised as well as studied medicine; * and his work stood in such high estimation among the ancients as to be copied literally in many parts by Pliny, though almost a contemporary. Indeed, whoever peruses his own excellent work on the materia medica with attention, will seek little farther for proof of his accuracy and diligence; and he and Pliny must always be cited as examples of the triumph of genius and industry over the harassing toils and interruptions of a military life. † It was not the intention of Dioscorides to deliver formally the dose of each medicine along with its natural history and medical application, and, therefore, it is only occasionally that we find him particularly describe the quantities and forms in which they must be exhibited. He, indeed, explains in one place why the doses were not comprehended in his work; and as the passage leads to a curious fact in the history of physic, we shall deliver it in his own words. Whilst treating of the white hellebore, a most important article of ancient materia medica, he adds, "Mensura dispensatioque ejus ab HIS tradita est, QUIBUS praecipuum fuit studium de eo (περὶ τῆς δώσεως αὐτῆς,) docere. Nosque Siculo ab Ethna Philonidæ in ea re subscribimus, longum enim fuerit materiam medicam ex proposito tractantes, faciendae medicinae rationem docere." ‡ Hence it appears that the ancients carefully separated the posological part of medicine from the materia medica; and with good reason, as, besides being too bulky an addition to the multifarious information of that science, it would have put the more ostensible part of the art into the hands of the vulgar, as the uninitiated of those times dabbled quite as much in physic as they do at present. We see likewise that they were in possession of distinct treatises on the subject of posology, and that the person here mentioned, Philonides the Sicilian, was an eminent author in that department. This passage likewise explains to us why Hippocrates, Celsus, Dioscorides, Pliny, and all the earlier writers on medicine, so rarely mention the dose even of the most powerful medicines; and, without some such key to their motives, Dr Arbuthnot § might well wonder at Hippocrates so carefully dosing his slops and

* By himself, also indirectly, De ver. albo. Lib. IV.
† Dios. Praef.
‡ Dios. Lib. IV. de veratro albo.
§ Ancient Weights and Measures, 288.

asses' milk, whilst the most acrid remedies are apparently left to the discretion of the practitioner or his patient. I shall, however, in what follows, endeavour to throw some additional light on this peculiarity of the ancient physicians, though, from the above, it is evident that a reference to the books of posology was always implied in the passages where the quantity and circumstances in which a medicine should be given are not specified by these authors.

Wishing to discover, if possible, whether some general multiple of our present doses might not be detected in the doses of the ancient physicians, I selected from the work of Dioscorides, all the medicines of whose composition and identity no doubt can be entertained, noting particularly such as must, when given in excessive quantities, produce the most violent effects. The history of each of the *latter*, as given by Dioscorides, was then carefully inspected, and the doses, with their proposed object, written down. A medium of them all, if not already given by the author himself, was afterwards computed; and a corresponding medium dose, at the same time, extracted from the posological table given by Dr Duncan junior in his excellent Dispensatory. The results were set down in the following table, wherein the drachm is taken at 62 grains, as ascertained by the famous antiquarian Greaves, * and admitted by Dr Arbuthnot † as nearly correct. To enable the general reader to compare these measures of the text with the modern troy weight, another table is subjoined, containing most of the medical weights and measures anciently in use.

Comparative Table of Ancient and Modern Doses.

Aloes. In haemoptoe, cochl. ij. In icterus, ob. iij. ad ʒi.; for free purging ʒiij.
In grains 310 31 62 186 medium 62, modern medium 15, but $\frac{62}{15} = 4.133$

Sulphate of Copper, for worms ʒi.
In grains 62 0 0 0 —— 20 —— 5 — $\frac{20}{5} = 4.000$

Elaterium, common dose, ob. j. smallest dose, ob. ss., to infants chalc. ij.
In grains $10\frac{1}{3}$ $5\frac{1}{6}$ 2 0 —— $10\frac{1}{3}$ —— 2 — $\frac{10\frac{1}{3}}{2} = 5.166$

Oxide of Copper, as an expectorant, ob. iij.
In grains 31 0 0 0 —— 20 —— say 5 — $\frac{20}{5} = 4.000$

Scammony, for a purge ʒi. aut ob. iiij., for a laxative ob. ij.
In grains 62 $41\frac{1}{3}$ $20\frac{2}{3}$ 0 —— 30 —— 8 — $\frac{30}{8} = 3.750$

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* Dissert. on Roman Denarius.
† Ancient Weights and Measures. He makes it $62\frac{1}{2}$.

SQUILL, to purge off bile, ob. iij.

In grains 31 0 0 0 medium 10 modern medium 2 but $\frac{10}{2} = 5.000$

BLACK HELLEBORE, to purge off bile or pituita ʒi., or ob. iij.

In grains 62 31 0 0 —— 42 —— 15 — $\frac{42}{15} = 2.800$

7)28.849

Mean quotient, 4.121

TABLE of Ancient Medical Weights and Measures, reduced to their equivalents in Modern Troy Weight.

1 sextans = 1 obolus = 10 chalci * = $10\frac{1}{2}$ grains.
1 drachm = 1 denarius = 6 sextantes = 6 oboli = 60 chalci = 62 grains.
1 uncia = 3 cochlearia = 7 drachms † = 7 denarii = 42 sextantes = 42 oboli = 420 chalci = 434 grains.
1 cyathus = 4 cochlearia = 10 drachms = 10 denarii = 60 sextantes = 60 oboli = 600 chalci = 620 grains.
1 cochleare = $2\frac{1}{2}$ drachms = $2\frac{1}{2}$ denarii = 15 sextantes = 15 oboli = 150 chalci = 155 grains.
1 acetabulum = 15 drachms = 15 denarii = 90 sextantes = 90 oboli = 900 chalci = 930 grains.
1 hemina = 60 drachms = 60 denarii = 360 sextantes = 360 oboli = 3600 chalci = 3720 grains.
1 sextarius = 2 heminae = 120 drachms = 120 denarii = 720 sextantes = 720 oboli = 7200 chalci = 7440 grains.
1 congius = 6 sextarii = 12 heminae = 720 drachms = 720 denarii = 4320 sextantes = 43200 oboli = 43200 chalci = 44640 grains.

The candid reader will easily perceive, that the numbers given in the former table as modern medium doses are not meant for *moderate* doses of the medicines there mentioned; they are merely the arithmetical mean of the extremes given in Dr Duncan's table; for this being the mode in which I have generally assumed the medium of the ancients, I thought it fair to compare it with the modern medium obtained in the same manner, besides the advantage of having the authority of a physician and author so justly celebrated in this department. It produces no other difference in the general result than that of making the disproportion between the ancient and modern doses too small.

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* My reasons for dividing the obolus into ten chalci, and not into six, as Arbuthnot and others have done, will be given at length in my edition of Celsus; meantime the reader may consult Pliny XXI. 34.

† Not 8 drachms, as the common ounce. The excellent Arbuthnot (284) was misled by not comparing the above passage of Pliny with Celsus. V. 18, 1.

As Dioscorides appeared the most authentic and judicious evidence, his doses merited the first place; his numbers, besides, are often written in compound Greek words, so as to preclude all possibility of mistake by the transcriber. But, on proceeding to examine the other authors who have given the doses of violent medicines, we shall find the coincidence appear so perfect as to remove any shadow of doubt that might still remain respecting the single testimony of Dioscorides.

The most perspicuous and precise author of all antiquity is Celsus; and being engaged at the time of the inquiry in preparing an edition of that author, I set about examining the few doses which he has delivered.

1. The famous antidote of Mithridates consisted of thirty-five different ingredients, mostly aromatics and bitters combined with opium, so that 10743 gr. contained 248½ of opium or $\frac{1}{43}$. Celsus (179) gave this as an anodyne to the size of an Egyptian bean, whose dimensions, indeed, are not well known, but which, as Dioscorides informs us, was larger than a common bean. Rhodius, ad Comp. Larg. 95, makes it of the same weight as a victoriatus, or two scruples; but he makes the common bean a drachm, *Ad Scrib.* 13, and, therefore, we must consider the Egyptian bean as heavier than a drachm. But as an anodyne it was given to the bulk of an almond, or four times the size of the former, in which case it would contain about six grains; for $\frac{62}{43} = 1\frac{1}{2}$, and $1\frac{1}{2} \times 4 = 6$ grains nearly, which, instead of being an antidote for poison, might, in modern times, itself prove fatal; at any rate, the party who previously swallowed such a dose must have made a poor figure at those splendid but treacherous entertainments of the ancient great, where death so often lurked in the cup which the Dii Geniales had in vain consecrated to friendship and festivity. *

2. The cough mixture of Athenio, 248 grains to 62 of opium, dose, an Italian bean. Now, $\frac{248}{62} = \frac{4}{1}$. Call the bean even ℈ij or 40 gr. and $\frac{40}{4} = 10$ grains of opium in the dose.

3. Another cough-mixture had opium $\frac{248}{124}$, or one in four parts as before, and the same dose, or rather its double, being two catapotia of the size of a common bean; therefore, = 20 grains

4. A composition for Ischuria had opium $\frac{4208}{434} = 1$ part in

* "When thou sittest to eat with a ruler, consider diligently what is before thee; and put a knife to thy throat if thou be a man given to appetite. Be not desirous of his dainties, for they are deceitful meat."—Prov. XXIII. 1, 2, 3.

9.9 or 10; but $\frac{62}{10} = 6\frac{1}{2}$ grains of opium for a dose; for this is what was contained in the Egyptian bean.

Throw these together as above, and we have

TABLE of Doses from Celsus.

Mithridate, a dose of	6 gr.	$\frac{6}{4} = 1\frac{1}{2}$
Athenio's cough-mixture,	10	$\frac{10}{4} = 2\frac{1}{2}$
Another do.	10	$\frac{10}{4} = 2\frac{1}{2}$
A mixture for ischuria,	$6\frac{1}{2}$	$\frac{6\frac{1}{2}}{4} = 1\frac{5}{4}$

We see, by the above Table, that when the enormous doses of Celsus are divided by 4, which is the quotient of the mean ancient doses by the mean modern, * that they then assume a rational magnitude, and, indeed, such as would be given at the present time on his indications. Yet I am not inclined to insist much on the force of this coincidence, as the evidence from other authors is much more direct.

Hippocrates, like the rest, rarely mentions doses; but when he does it is exactly in the same excessive ratio. He gives an obolus, or $10\frac{1}{2}$ grains of elaterium, in a female case. † His other very few doses specified are not of substances that afford any decisive information to our inquiry.

Scribonius Largus gives a catapotium for a cough with expectoration, in which the opium makes $\frac{1}{2}\frac{3}{7}\frac{7}{1}\frac{3}{6}$, or $\frac{1}{2}$ of the whole composition, yet he gives three or four pills of the size of a vetch pea in the course of the night. Say the pill weighed only 2 gr., yet 2 × 3 or 4, will give 6 to 8 grains of opium for one night's dose.

The same author gives another catapotium for an old cough, which has $\frac{6}{1}\frac{2}{3}\frac{}{7}$ of opium, or $\frac{1}{2}$, and this is likewise given three or four times a night to the size of a bean, amounting to nearly a scruple of opium!

His cough pastilli, or lozenges, weigh 31 grains, of which the $\frac{1}{7\frac{1}{2}}$ is opium, or each lozenge contains four grains. For Ischuria he gives a drachm, or 62 grains of a medicine which has $\frac{62}{11}$ or $5\frac{1}{2}$ grains of opium in it.

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* P. 189, supra. † De Superfoetatione.

Marcellus lived under the Emperor Gratian and Theodosius, and is said to have been an empiric. He gives 31 grains of aloes for a laxative, and this in many formulae.

Of a purging medicine, $\frac{2}{3}$ of which consisted of scammony and black hellebore, he gave the size of a hazel-nut, probably a drachm.

He gave troches weighing ʒi. in Nephritic pains, and the $\frac{1}{6}$ of these was opium; hence $\frac{62}{6} = 10\frac{1}{3}$ grains of opium in each dose.

Rufus Ephesius orders pulp of colocynth for a purge ʒi. or 62 grains. Aloes ʒij. or 124 grains of the juice of tithymallus (very acrid) ʒi. = 62 grains. Paulus Aegineta gave for purging medicines the following doses: of aloes ʒi. = 62 grains; of black hellebore, ʒi. = 62 grains; of scammony, 4 oboli, or 42 grains; of colocynth, ʒi. = 62 grains; of elaterium, 3 oboli, or 31 grains; of the oxide of copper, 31 grains.

The same author gives compound purgatives, with doses agreeable to the simple ones just given. Thus the famous "Purgatoria ex Hermodactylo Podagrica," or Arthritic purgative of Colchicum, now ascertained * to be identical with the "Eau Medicinale d'Husson," is given by him as follows:

"Purgatoria ex Hermodactylo Podagrica."

"Hermodactyli quadrantem (= ℥iij.

"Anisi, Cumini Æthiopici, ameos, thymi corymborum, piperis albi, zingiberis, singulorum ℈iij., epithymi ℥ss. Dosis ℈iv.—aliqui sex dant. Dantur manè cum condito, aut aqua mulsa, aut mero fervefacto."

On calculation, it easily appears that one-third of the composition is colchicum root: and the less daring practitioners, therefore, who ordered ℈iv. of this medicine were giving $\frac{81}{3}$, or 27 grains of colchicum root to their patient.

Aretaeus seems to give similar doses, but, like the rest, mentions very few. To bring the whole of these observations into one view, we shall throw them into a tabular form.

Tabular View of Ancient Doses continued.

I. Hippocrates.

Elaterium, in dose of $10\frac{1}{2}$ gr.	but $\frac{10\frac{1}{2}}{4}$	$= 2\frac{1}{2}$ gr.

* Vide Medico-Chir. Transactions.

II. Scribonius Largus.

Cough pill, having of opium	6 to 8 gr.	$\frac{6\text{-}8}{4\text{-}4} = 1\frac{1}{2}, 2$ gr.
Old cough-pill,	do. 20	$\frac{20}{4} = 5$
Cough-lozenge,	do. $5\frac{1}{2}$	$\frac{5\frac{1}{2}}{4} = 1\frac{1}{2}$
Medicine for ischuria,	do. $5\frac{1}{2}$	$\frac{5\frac{1}{2}}{4} = 1\frac{1}{2}$

III. Marcellus.

Aloes for a laxative, in many formulae,	31 gr.	$\frac{31}{4} = 8$ gr.
Purge of Scammony & Hellebore,	31	$\frac{31}{4} = 8$
Nephritic Troches, having opium	$10\frac{1}{2}$	$\frac{10\frac{1}{2}}{4} = 2\frac{1}{8}$

IV. Rufus Ephesius.

Purge of Colocynth pulp,	62 gr.	$\frac{62}{4} = 15$
——— Aloes,	124	$\frac{124}{4} = 31$
——— Juice of Spurge	62	$\frac{62}{4} = 15$

V. Paulus Aegineta.

Purge of Aloes,	62 gr.	$\frac{62}{4} = 15$
——— of Black Hellebore,	62	$\frac{62}{4} = 15$
——— of Scammony,	42	$\frac{42}{4} = 10\frac{1}{2}$
——— of Colocynth,	62	$\frac{62}{4} = 15$
——— of Elaterium,	31	$\frac{31}{4} = 8$
——— of Oxide of Copper,	31	$\frac{31}{4} = 8$
——— of Colchicum root,	27	$\frac{27}{4} = 6\frac{3}{4}$ *

* I have not taken the trouble to calculate Dr Duncan's arithmetical mean corresponding to these doses, but the reader can easily do this for himself.

From all these facts taken together, it appears that the ancients, from Hippocrates downwards, were in the habit of giving doses at least four times stronger than ours, and that this ratio obtains with remarkable uniformity through all their works, embracing a period of time little short of a thousand years. The coincidences are so numerous that no one can ascribe them to chance; indeed, we can easily trace the dose of Dioscorides and the older writers copied into the pages of the latest, as of Paulus and Marcellus. Let it not be imagined that these extraordinary doses are culled from amongst a great many where the quantity was moderate. I have no where done so, but have always noticed their ordinary doses when the ancients themselves mention them as such. Where, on comparison with the ancient authors, the learned reader may form a different opinion, I would beg him to consider that we, at this time, can only judge of their mode of prescribing by what I call the IMPOSSIBLE doses, just as we arrive at truth in other sciences by the "*reductio ad absurdum.*" It is on this mode of reasoning, and the discovery of a secret quadruple subdivision of doses, that the interest of the present inquiry, if it has any, must rest; for the labour of turning over ancient books, and comparing examples, is a drudgery too trite and mechanical to deserve much attention from the readers of this studious, intellectual age.* He must remember that no judicious physician of the present day prescribes an active medicine to its utmost dose in compositions wherein it is only of collateral benefit; and our posterity would judge very much amiss of our ordinary doses of opium if they were to deduce them from the dose of the London Paregoric, or the Electuarium Catechu Compositum of the Edinburgh Pharmacopœia. It follows, that occasional moderate doses, did they even occur more frequently in ancient authors, could not decide the matter at issue.

On what principle, it may be asked, are these extravagant, nay, murderous, doses of the most acrid and poisonous matters to be explained? Does there, after all, exist some mistake in the numbers from long continued and careless transcription? or do we entirely mistake the true weight and relation of the Roman denarius† to our drachm troy?—Did the ancient phy-

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* Accordingly, wherever it was convenient, I have borrowed freely from the labours of Arbuthnot, just as any one is at liberty to borrow from these.

† The Roman denarius is still extant in abundance; and its relation to the other weights is so precisely described by the ancients, that its weight troy being known, all the others are obtained in grains by simple proportion. See the table given above. Pliny, xxxiv. 5, seems to insinuate that their alloy was

sicians really exhibit these doses to patients who, from early habits of activity and exercise then almost universal, had bodies able to resist their influence? Or, did they, in order to conceal the art from the profane vulgar, purposely falsify, and for convenience, do this in a certain quadruple ratio?—employing weights graduated indeed like those in common use, but secretly understood to be subject to this fourfold division? Each of these conjectures may seem to merit attention, and I shall close this communication with a few remarks on their individual probability.

I. That the doses above, extracted from the ancient authors, have not been altered by the transcribers, is clearly shewn by the fact, that many of them are not in characters, or numeral abbreviations, but in written words, Greek compounds, such as the word τριόβολος, for example, which could not, by any conceivable chance, have been substituted for its fourth part or eight grains; yet this is the term by which Dioscorides denotes the dose of squill requisite to purge off the bile. Indeed, had any error crept into the text of the older authors, it would never have been copied into the succeeding writers, who were generally practitioners, and could not mistake the dose of medicines so familiar, and whose mode of preparation is so precisely described.

II. There may still seem grounds for believing that the moderns have not a correct estimate of the weight denarius, and that there is, therefore, no accurate method of ascertaining the absolute relation of the ancient weights to those of our times. But the ancient denarius, or drachm, (for they are equivalent terms,) was a common Roman money, about the weight of three sixpences of our present* coinage, and is still to be met with abundantly amongst the dealers in old coins; and numbers of them exist in various public collections in a state of high preservation. Mr Greaves, the famous antiquarian, weighed many hundreds of them in different countries, and found the medium weight of the denarii consulares to be very steadily 62 grains, whilst the attic tetradrachm, corresponding to our crown piece, and which ought to weigh four times 62, or 248 grains, at an average, weighs four times 67, or 268 grains, making the drachm 67 grains. The latter, however, is evidently a provincial varia-

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$\frac{1}{9}$ in his time, though modern chemists maintain that the ancient coins are nearly pure.

* 1816.

tion, of which we have abundance of examples in our own country and times;* indeed, the measure of the congius of Vespasian, a standard vessel which is still in existence, agrees so exactly with the former weight of the denarius, 62 grains, that there cannot exist a rational doubt of its exactness. A judicious and learned friend, who has spent a considerable time in Italy, and whose connections and pursuits naturally gave an interest to the inquiry, found the present drachm used by the apothecaries of Italy to correspond exactly with the ancient Italian denarius or drachm, (ascertained by Greaves,) consisting of 62 grains troy. Indeed, it is natural to suppose, that, of all other places, the apothecary's shop must be that where uniformity would be longest and most exactly preserved; deviations there being attended with the most immediate and fatal consequences, whilst the usual motives for change are totally wanting, their goods being generally bought in by a different weight. The same excellent physician conjectures, and with great probability, that, were any one to make the experiment, the above weight of 62 grains troy would still be found in the apothecaries' drachm of modern Greece, unaltered, perhaps, since the days of Aristotle.

III. Did the ancient physicians then really exhibit the above doses to their patients, who, from early habits of activity and exercise, then almost universal, may be supposed to have had bodies able to resist their influence? This explanation cannot, I fear, be admitted. It is incontestibly established that the bodies of the Greeks and Romans, whose physic we are considering, were not larger than those of the present race of mankind; nay, more,—we have the constant unbiassed evidence of their own historians, orators, and poets, that their stature and bodily strength was considerably inferior to that of the Asiatics of the south, or of the Gauls to the north of their country. As it is probable that little change has taken place in the personal strength of the latter, who were true Celtæ, that tribe, like the Jews, having a wonderful tendency to retain their primitive habits; so, reasoning upwards, it follows, that the ancient Greeks and Romans must have possessed less personal vigour, and, therefore, must have less resisted the action of excessive doses than a modern Welshman or Scotch Highlander, whose vis medicatrix would, notwithstanding, be somewhat staggered at

* The cause of this difference seems to have been the alloy, which is commonly $\frac{1}{12}$, and which the ancients probably did not consider of any value, and, therefore, only estimated the weight of these coins by the pure gold or silver contained in it. This supposition is simple, and explains the difference exactly.

a 20 grain dose of opium or sulphate of copper. Much, however, may be said on the other side of the question; and the almost total absence of diseases of debility, of scorbutus, the cutaneous tribes, affections of the heart, of typhus fever, of scrofula, of rickets, of chronic rheumatism, in the medical works of the ancients, would seem to savour something of modern degeneracy. Their lives were much more debauched than ours, and had their constitutions been as weak, the same consequences must have been observed. Indeed, their general practice of vomiting in order to sharpen the appetite must have given such a shock to the system as few of our modern gourmands would like to undergo for the enjoyment in prospective; yet this practice had prevailed from the most early times, since Hippocrates alludes to it, but thinks it wiser to vomit but once a fortnight. The instances of debauch given by their authors far exceed the eating and drinking matches of the English newspapers,—nay, many of them were habitual. Thus Cato allowed his slaves individually, during the Saturnalia, seven pints, or four bottles of wine, per diem, which would appear in this age rather a liberal allowance. Cicero's son was called Bicongius, because he was accustomed to drink two congii off at a draught. But two congii are seven quarts or eight bottles of wine! the wine may have been weak, but who of these times could have drank off as much water with impunity? Pliny and others abound in such examples, many of them much more wonderful, the present being selected merely for the eminence of the individual and the impossibility of mistake in respect of quantity. Lastly, we find the most execrable instances of corporeal and mental depravity among the ancients enjoying uninterrupted health. The infamous tyrant and debauchee, Nero, was only three times sick in fourteen years. "Nam qui luxuriae immoderatissimae esset, ter omnino per XIV. annos languit; atque ita, ut neque *vino*, neque consuetudine *reliqua* abstineret;" *—and the like is reported of many others. Even the satirists, whose style was exaggeration, and whose proper subjects were vice and luxury, never mention other consequences than crapula or indigestion, from the disgusting gluttony of the times; very rarely even gout. Notwithstanding all this, however, we must incline to the former opinion, that the ancients were less robust than we are; it being now well ascertained, † that of all the two legged varieties of the creation, whether wild or tame, an Englishman

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* Suet. de Nerone.

† See Lawrence's Physiology, Zoology, and History of Man.

possesses the highest muscular power; and hence, *a fortiori*, stronger than the Celts, who were, and are, as we have just seen, stronger than the ancient Romans.

IV. The only remaining mode in which this difficulty can be solved is by supposing, that, in order to conceal the art from the profane vulgar, the physicians of antiquity intentionally falsified their doses, and, for convenience, did it always in a certain uniformly quadruple ratio; employing weights, indeed, graduated like those in common use, but secretly understood to be subject to this fourfold division. We arrive at this inference by the method of exclusion, for we have seen above, that every other conceivable mode of accounting for the excessive doses of ancient medicine is without foundation. In supposing that this was the case, we do no more injury to the morality of the ancients, than to the moderns, in allowing that the practice of prescribing in Latin words and Roman characters is for the same purpose,* a thing which few deny, and many writers openly avow. That they CONCEALED their doses is manifest from their writings, and from the singular fact, that, though we have seen above that they had choice of books on posology, not one of these have reached us, either of Greek or Roman composition, being probably attainable to none but practitioners.

The facts are so obvious and striking, that Dr Arbuthnot, in the year 1727, formed nearly the same conjecture; and if concealment was practised, it is evident it was only by falsifying the weights and measures of the day in a *constant* ratio, that one medical man could become intelligible to another; or, indeed, have a motive for naming the dose at all, which otherwise must have been completely unintelligible to his readers. A secret understanding, then, of a diminution of the dose in a fixed ratio appears necessary, and as the tables given above show plainly enough that this ratio was a quadruple one, I shall not longer insist on it here, but with renewed request, that some one better qualified will take this curious circumstance into consideration, conclude these few remarks on a subject rather beyond my opportunities of inquiry.

21, *South College Street*,
Dec. 25, 1819.

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* "Scilicet qui non mulierculis aut circumforaneis medicis artem impertiar." —Greg. Consp.

III.

Case of Axillary Aneurism unsuccessfully Operated on at the Hotel Dieu. Communicated in a Letter, dated Paris, May 16, 1819. By Dr RUTHERFORD, Royal Navy.

THE subject of the second operation on the subclavian artery,* at present about 40 years of age, being formerly a soldier, was labouring under a constitutional venereal affection, which had already injured the nasal bones, and occasioned a falling down of the nose; when, in the year 1815, he received a wound from a flat-bladed lance, in the upper and fore part of the right arm a little inwardly, which penetrated in the direction of the axilla. Blood flowed profusely from the wound, but, the orifice being small, the hæmorrhage was easily stopped, and the wound healed by the first intention. At the end of a month, a small pulsating tumour was perceived in the axilla, which gradually increased to a considerable size and occasioned some pain, but it was only at the end of the 4th or 5th month that means were taken to remove it. A roller was now applied, from the extremities of the fingers to the shoulder and axilla, including the tumour, which at first diminished in size by the pressure; but the arm and hand became extremely feeble and emaciated without losing their sensation. At the end of six months from the first application of the bandage, its former good effects having ceased, whilst its bad ones continued, it was thrown away, and the tumour, abandoned to itself, remained stationary for a very considerable time, but the arm continued feeble, emaciated, and useless, which induced the man to learn to write with the left hand; and, being unfit to earn his bread in the country, he obtained a situation in Paris suitable with his infirmity. Here then he came only a short time before his entrance at the Hotel Dieu, for the tumour, having suddenly enlarged to a great size, extending itself under the pectoral muscle and elevating the clavicle, became, at the same time, so painful, and occasioned such excruciating pain in the arm, especially at night, that he was forced, in the course of eight

* Mr Dupuytren took up the subclavian artery above the clavicle on the 7th of March, and, although the patient is not yet discharged from the hospital, he is now, (the 9th of May,) except a little of the aneurismal tumour, which remains unabsorbed, perfectly cured. Having operated in this case privately in the ward, it gave much umbrage to the pupils, which induced him to perform the second operation publicly in the amphitheatre.

days from the commencement of this rapid increase, to quit his situation and apply for surgical aid.

On examining the patient, Mr Dupuytren found the pulsation distinct at the wrist, but much more distinct in the tumour, which was tense and so painful to the touch, that no pressure could be made on it. He endeavoured to moderate the present symptoms by bleeding, &c.; but, fearful of a sudden fatal event from the rapid progress of the disease, he decided on taking up the subclavian artery without delay: consequently, he proceeded to perform the operation on the 30th of March, being the morning after the patient's arrival at the hospital.

The patient being placed on a table, and his shoulders elevated by pillows, Mr Dupuytren having made an incision through the teguments about 2½ inches in length, commencing at the outer edge of the sterno-cleido-matoideus muscle, about half an inch above the clavicle, and extending towards the acromion process of the scapula, obliquely downwards to the clavicle, proceeded cautiously to dissect the cellular membrane down to the artery, securing every blood-vessel as soon as cut, and eight were secured, and eighteen minutes passed from the commencement of the operation, when the patient complained of such intolerable pain in the tumour and arm, aggravated by the application of the ligatures, that the operator was obliged, from the apprehension of convulsions supervening, to desist for some time, and ten minutes elapsed before he resumed the operation. He now continued to dissect cautiously as before, using the edge of the scalpel all the time, but was repeatedly forced to desist for a few minutes, owing to the complaints of the patient, and only one other vessel was secured, when, at the end of an hour from the commencement of the operation, the artery was brought into view. After much difficulty, from the great depth of the vessel, two inches or more from the surface, and the condensed state of the cellular membrane surrounding it, he succeeded in passing a grooved blunt-pointed hook (sonde cannulée) under the artery; but, owing to the necessary shortness of the curve of the instrument, the armed stilet or probe which, it was his intention to have run along the groove, could not be made to pass; he, therefore, was obliged to withdraw the grooved hook and employ a solid one with an eye in the point, into which, after passing under the artery, a thread was introduced by means of a common sewing needle, the thread being now passed through the eye in the point of the hook, a double ligature was fastened to it, (the thread,) and, the hook being withdrawn, the ligatures were

easily introduced conducted by the thread. In order to satisfy himself and all present, that the ligatures were really passed under the artery, Mr Dupuytren took hold of both ends of one of them between his finger and thumb, forming a loop, including the part surrounded, on raising which up, by putting the loop on the stretch, he ascertained distinctly that the pulsation ceased in the aneurismal tumour, and that it returned on relaxing the ligature and allowing the part to come into its natural situation. This alternate and synchronous cessation and return of the pulsation in the tumour, according as the loop formed by the ligature was put on the stretch or relaxed, having been repeatedly tried and proved, to the perfect satisfaction of all the pupils (or eléves) that were sufficiently near the operator to feel the part, one of the ligatures only was tied sufficiently tight to stop the pulsation in the tumour, but leaving, as Mr Dupuytren described it, a tremulous sensation. The other ligature was left as a ligature of safety: and thus ended the most tedious, the most painful to the patient, and the most difficult operation, such are his own words, that ever Mr Dupuytren attempted, having taken one hour and 48 minutes in the performance.

The above statement was written the day after the operation, collected from the account given by the operator, together with what I myself witnessed. Mr Dupuytren's report of the patient this day (31st March) was, although the pulsation continued in the aneurismal tumour, that the man was as well as could be expected, and he (Mr Dupuytren) said, he felt quite confident that the irritation given by the ligature on the artery would excite sufficient inflammation to occasion adhesion of its coats, and thus, that the intention would be fulfilled whilst the patient was saved from the pain attendant on drawing the ligature tight. April 1st, The pulsation is as strong as ever in the tumour, which rapidly increases in size. The patient's sufferings from the pressure and distention of the tumour have not been relieved by the operation. April 2d, The sufferings of the patient from the effects of the operation are not considerable; but the pulsation, pain, and tension of the aneurismal tumour, continue as troublesome as ever. Pounded ice, in a bladder, is directed to be applied, at intervals, on the tumour. April 3d, The patient feels much as yesterday; the skin covering the tumour begins to assume a livid appearance. April 4th, A slight hæmorrhage took place yesterday evening from the wound; this hæmorrhage, however, was suspended without much difficulty by means of a compress applied over the dressings; ice continued at intervals, as usual. 5th, An alarming

hæmorrhage took place this morning from the wound; this hæmorrhage was suppressed with great difficulty, Mr Dupuytren having found it necessary to undo the dressings, and stuff the wound from the bottom with dossils of lint rolled in powdered rosin, (colophane,) over which a compress and bandage were firmly applied; the ice is still continued at intervals on the tumour, which becomes still more discoloured. 6th, There has been little or no bleeding from the wound since the stuffing yesterday, which has suspended the pulsation in the tumour to which the ice is still applied. The patient appears languid and feeble, and suffers considerably from the tightness of the compress and bandage, the pain of the tumour and arm, &c. 7th, In the evening of yesterday the patient suddenly sunk into a state of stupor, and assumed a moribund appearance; he seems anxious and restless, though insensible to surrounding objects. Gangrene makes a rapid progress in the tumour. He died in the course of the day.

On examining the seat of the operation, the ligature that had been tied was found knotted loosely on one of the cervical nerves, * and the ligature of precaution untied beside it. The subclavian artery, lying on the inner side and below the nerve, was perforated to its centre on the side next the ligature, the other half remaining sound. From this appearance, it is obvious that the artery was not included in the ligature, and Mr Dupuytren is of opinion, that the instrument passed right through its coats in the operation, so as to take up one half of it, which was cut by the ligature in the course of four days and a half, and then that hæmorrhage took place. This, he says, is the only way in which he can account for the circumstance of the pulsation in the aneurismal tumour having alternately ceased and returned, according as the loop made by the ligature previously to its being tied, was put on the stretch or relaxed, as already described; but then, he adds, it remains to be accounted for, why, according to this opinion of a blunt hook having penetrated the coats of the subclavian artery and traversed its canal, hæmorrhage did not take place immediately; and how the wound, under these circumstances, could remain four days and a half, without even the slightest bleeding. Surely the thing is incredible, and I am humbly of opinion, that all the phenomena may be explained on more rational principles by supposing that the hook, and consequently the ligatures, passed between the nerve and the artery, very

* That portion of the 4th cervical, which afterwards becomes the external cutaneous or musculo-cutaneous nerve.

close to the latter, including part of the condensed cellular membrane, attached to and enveloping it; the ligature being thus, as it were, fastened to the artery, on being pulled up by both ends with some force, would pull the artery with it at that particular part, forming a sharp angle which would break the force of the circulation, and suspend the pulsation in the tumour, or at least render it very obscure; in this way, indeed, the effect on the circulation would be nearly the same as if the ligature was really underneath the artery. And, by the bye, this appears to me a very important fact in the operation for aneurism, as it shows that the alternate suspension and return of the pulsation in the aneurismal tumour, corresponding with the tension and relaxation of the loop formed by the ligature previously to its being tied, although a very good proof, is by no means a proof positive that the artery is included in the ligature.

The circumstance of the hæmorrhage taking place between the fourth and fifth day may be accounted for, by supposing, as is very probable, that the blunt hook, in passing by force through the condensed cellular membrane, had done such injury to the coats of the artery, which it probably even came in contact with, as to destroy their vitality in that part, and sloughing and ulceration consequently took place.

With regard to the circumstance of the pulsation in the aneurismal tumour having been reduced to a tremulous motion after the tying of the ligature, as described by Mr Dupuytren, the appearances on dissection render its veracity more than doubtful: besides, some of the eléves, who had an opportunity of feeling the part immediately after the operation, deny the fact, and assert, that the pulsation in the tumour was not suspended for one instant after the tying of the ligature. But it would be unjust to attribute this erroneous statement, on the part of Mr Dupuytren, to want of candour, or any intention or wish to deceive, as it may be easily supposed that the operator, from excess of zeal and natural anxiety for the success of his operation, might have been himself deceived: and, indeed, this would naturally lead one to reflect how cautious we ought to be in censuring men of more ordinary opportunities when we find that surgeon, whose situation, as sole surgeon of the Hotel Dieu, affords him more frequent opportunities of operating, and much more extensive hospital practice, than any other in the world, not only failing altogether in the object he proposed in performing the operation, (taking up the artery,) but suffering his zeal and anxiety to deceive his sense of touch afterwards. But, whilst we learn from this unsuccessful opera-

tion, a lesson of indulgence towards our brethren of less experience, we must not be the less guarded in our criticisms on the conduct of the more experienced operator in the present case: for, if we consider the unfavourable previous habit of body of the man, the great size of the aneurismal tumour, the elevation of the shoulder, and the sufferings of the patient previously to the operation, we shall readily perceive, that the confidence inspired by the uncommon success of a similar operation which he had performed a few weeks before,* could alone have induced him to attempt this one, and candour must admit, that greater dexterity, humanity, perseverance, and patience, have seldom been witnessed, than were manifested by Mr Dupuytren in the performance of it.

IV.

On the Acceptation of the Term Scorbutus, and on the prevalency of this Affection at different periods. By MARSHALL HALL, M. D., F. R. S. E., &c.

IT has been recently stated by three most distinguished writers, that the disease termed Scorbutus or Scurvy is "now unknown in London, or nearly."† An argument is, in consequence, drawn in favour of the greater salubrity of the metropolis in the present day than formerly.

It has not, indeed, escaped the observation of medical authors, both the more ancient and the modern, that the terms scorbutus and scurvy were employed by physicians, as well as the vulgar, in a very vague and almost unrestricted manner. Willis, who wrote expressly on this affection, and whose authority I shall use in the following observations, states, that it is "multis in locis epidemia et ubique fere sporadica, qua scilicet fere nunc omnes laborant aut se laborare putant;" and he adds, after stating the great multiplicity of its symptoms, "immo, si accidens quoddam inusitatum, nec prius auditum in corpore

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* The operation alluded to in a former note.

† Heberden on the Increase and Decrease of Different Diseases.

Sir Gilbert Blane, Bart. Medico-Chirurgical Transactions, Vol. IV. in allusion to the description of Scorbutus by Willis.

Bateman on the Diseases of London, Introduction.

humano eveniat, cum ad certum morbid genus referri nequit, sine dubio statim illud scorbuticum pronunciamus."

Claremont and Sydenham justly complain of this abuse of the term scorbutus. * And Sir Gilbert Blane has more lately shewn, in the most lucid and affecting manner, how baneful such ambiguity in the use of medical terms becomes in its influence on the medical art, and on the best interests of humanity. †

If such were the habits of thinking, of writing, and of speaking on this subject, we cannot surely be surprised that the bills of mortality should be crowded with victims of the scurvy; nor, that, since this term has lost, in a great measure, its popularity, we should hear so much less of the influence of that disease on the health and lives of mankind. But have these affections, "quæ adeo diffusæ atque ad tam varia et multiplicia symptomata extenduntur," really *disappeared*, or have they only *changed their name?*

Sauvages observes, "morbus hic ante decimum sextum sæculum, vix erat cognitus, et intra duo ultima sæcula centum fere tractatus de eo sunt scripti, nullus vero *antea*," and it might be added, vix ullus *postea*. These are surely remarkable facts, and deserve, both on the part of the physician, and of the student of political economy, the most serious investigation. A disease appears in the beginning of the sixteenth century, continues its ravages for a time, and is scarcely known at the end of the eighteenth! It may be remarked, however, that the memory of the vulgar appears rather more retentive of past impressions, and that, with them, we still occasionally hear of the scorbutic humour and of the scurvy.

As a counterbalance to the disappearance of scorbutus, I would, however, notice, that medical inquiry has brought to light several new forms of morbid affections, as very prevalent now, although unnoticed or undistinguished formerly. These are the multitudinous effects of disorders of the digestive organs, ‡ pseudo-syphilis, cachexia syphiloidea, § and the different genera of the now well-defined cutaneous diseases.

I would here suggest it as a question, whether there be not sufficient evidence that these affections were formerly ranked and treated under the denomination of Scorbutus or scurvy? Some denomination they must have received, unless we suppose that, as scorbutus is unknown to us now, so these affec-

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* See Bateman, loc. citat.
† See the Elements of Medical Logic, Section VI.
‡ See the works of Mr Abernethy.
§ See the works of Mr Pearson.

tions had no existence formerly. And is there not reason to believe, that, not only the temporary loss of an invaluable remedy, * but also the great obscurity which envelopes this subject, is to be ascribed to the misuse of terms, and the ambiguity of medical language?

In a medical essay † published in 1818, I noticed a morbid affection, under the appellation of Mimosis Acuta, as one which appeared to me "not to have been fully described in medical writings," but which is extremely frequent and prevalent in the manufacturing district in which I reside, from the extensive influence of its usual causes, sedentariness and confinement. Some time after the publication of this little work, I was struck with surprise, on perusing the account of scorbutus by Willis, at the extraordinary similarity of the two delineations. And on pursuing the comparison, I became inclined to think that the two affections were in reality one and the same.

That the reader may judge for himself, I shall here, before I proceed further, present him with the two descriptions in opposite columns, beginning with the general character of Scorbutus, and of the Mimosis Acuta, and then proceeding to the comparison of the more ample description of these affections.

General Character.

Scorbutus.	*Mimosis Acuta.*
Maxima symptomatum farrago, affectus multiplices et diversi generis, quique interdum sunt naturæ oppositæ aut contrariæ, scorbuto accensentur, &c. Cap. 1.	From the great diversity and complication of the symptoms of this affection in different instances, and from the occasional prevalence of one particular symptom over the rest, it is probable that it has in practice been mistaken for some other affections. Chap. 1. p. 5. § 6.

Description.

Cephalalgiæ immanes et habituales, illæque aut vagæ aut periodicæ, modo spirituum torpor et somnolentia, modo vigiliæ pertinaces; crebræ vertigines, ac scotomiæ, convulsiones, paralysis.	The patient experiences headach and vertigo, and he is nervous and easily agitated. There is sometimes heaviness for sleep, sometimes great wakefulness and restlessness. p. 8. § 15; see further § 82, and § 92.
Sputatio copiosa, gingivarum ulcera, dentium vacillatio, oris fœtor.	The tongue is often loaded, swollen, and œdematous, marked by pressure against the teeth, &c.; the gums are red and swollen; the teeth and the mouth in general foul, and the breath loaded and fœtid. See also § 24, l. 7, § 33, l. 17.

* See Sir Gilbert Blane's Elements of Medical Logic, loco jam citato.
† An Essay on the Mimoses.

Circa pectoris regionem, dolores in variis membranarum partibus, &c. frequens asthma, respiratio difficilis et inæqualis, pectoris constrictio et angustia; tussis inanis.

Pulsus inordinatus, cordis tremor, crebra spirituum deliquia, frequens lipothymia ejusque fere metus continuus.

Paroxysms of oppressive dyspnœa, cough, viscid expectoration. §§ 18, 63, 72.

There is almost universally a peculiar sense of fluttering about the heart and pit of the stomach, § 15; palpitation of the heart, frequency and irregularity of the pulse, § 13. See also §§ 9, 28, l. 13, 29, l. 9, &c.

In ventre inferiori, hic morbus, quasi principem sedem figens, malorum iliada producit;—nausea, vomitus, rugitus, cardialgia, hypochondriorum inflationes, et murmura, colica frequens, et dolores molestissimi huc illuc discurrentes, diarrhœa fere constans, interdum dysenteria aut tenesmus, atrophia, &c. interdum ascites.

Urina sæpissime rubicunda et lixivialis, cum crusta innatante, aut vitri parietibus affixa; interdum vero pallida, et aquosa, copiose excernitur.

Loathing or craving; a sense of load, distention, flatus, eructation, hiccough, and even vomiting. At first constipation, afterwards constipation alternately with diarrhœa, and sometimes the latter becomes permanent. The motions often accompanied with blood, and frequently tenesmus; §§ 16 and 17. See further, §§ 14, 15, l. 7, 8; 77-80, &c.

The urine is extremely loaded at the commencement, but may become transparent during its continuance. It is often high-coloured, and liable to change, § 17.

See §§ 17, 103.

In externis membris, immo in toto habitu corporis, dolores vagi et non raro summæ atroces, et noctu potissimum sentiuntur.

Lassitudo spontanea, carnium intabescentia, lumbago, aliorumque artuum debilitas et enervatio.

Weakness, tremor, &c. § 9. Loss of flesh, § 14; § 92, &c.

In cute maculæ varii coloris, tumores, tubercula, et, non raro, ulcera cacoëthea erumpunt.

Furunculi, purpura, erythema nodosum, &c. § 24.

Febres erraticæ.

§§ 27, l. 4, 28, l, 4, &c.

Hæmorrhagiæ graves.

Hæmatemesis and melæna; §§ 17, 99.

Modo plura modo pauciora (horum symptomatum) eaque interdum hujus, quandoque istius generis ac moris, laborantes infestunt, nonnunquam alia inassueta et prodigiosa.

§§ 1, 6, 19, 38, 39, &c. &c.

There is also a remarkable coincidence in the subjects of the two volumes. The work of Willis contains an account of hysterio, hypochondriasis, asthma, and other affections termed spasmodic; the Essay on the Mimoses contains these same subjects, subjoined to the account of the Mimoses Acuta. Willis observes, "affectus convulsive et scorbutici, juxta positi, se mutuo illustrabunt, ac utrique alterutris facem non levem præferent."

The reader may further compare the third, fourth, and se-

venth chapter of the treatise of Willis with Section II. and III. of the Essay on the Mimoses; and the indexes of Cap. III. and IV. with the list published in the latter work, § 17, page 10. I have not thought it proper to pursue this comparison beyond the description and enumeration of symptoms.

On further comparing §§ 18, 24, 104, &c. of my essay with the works of Abernethy, Pearson, and Willan, of Bateman, Philips, and Hennen, * with what I have observed since the date of my publication, and with the different accounts of scorbutus, as the term was long accepted, I am the more induced to think that the difference has consisted more in the difference of names than of the subjects treated of. On a perusal and comparison of these different works, we shall be less surprised that a medical author should speak of "scorbutic consumptions, scorbutic pox, scorbutic dropsies, fevers, palsies, gouts, convulsions, asthmas," &c. Chlorosis, hypochondriasis, and the atrabiliary and arthritic affections, are each deemed scorbutic by Morton, Riverius, and the editor of Sauvages. Maynwaringe describes scorbutus as being "polymorphous," and "polyrhizous." In my little essay I have ventured to propose the term "Mimosis." Dr Wilson uses the epithet "mimic" in a paper on *Dyspeptic* PHTHISIS; † and I would further refer to the works of Hamilton, Abernethy, Ayre, &c. for the description of a multiform and irritating morbid affection.

From all that I have said, I should certainly hesitate in concluding that the disease termed Scorbutus by Willis is "now entirely extinct;" and I would again propose the question, whether it has not rather only changed its name?

We are thus prevented from rejoicing at the disappearance of a source of great suffering and mortality. But we are enabled to account for the frequent appearance of scorbutus in the sixteenth and seventeenth centuries; and we are freed from the pain of supposing that there is a new host of enemies under more modern appellations. We are satisfied that there may occur a variety of mimic and of cachectic affections in the eighteenth and nineteenth centuries, without supposing the disappearance of former, and appearance of later forms of disease. It is plain that we do still witness the "pulmonum tabes et totius corporis fœda et miserabilis corruptio;" and may we not hope that this is, in reality, no new disease? From this affection the true sea-scurvy, the purpura, and the different

* Ed. Med. Journ. Vol. XIV. p. 204.
† Medico-Chirurgical Transactions.

genera of cutaneous diseases, are, of course, totally distinct. They all probably exist now nearly as they existed formerly.

It is also probable that these affections were not unknown *before* the sixteenth century. It is apparently noticed by ancient authors under the denomination of Cachexia. Celsus describes the appearances thus: "Corporis malus habitus est; ideoque omnia alimenta corrumpuntur. Quod vere fit, cum longo morbo vitiata corpora, etiamsi illo vacant, refectionem tamen non accipiunt; aut cum malis medicamentis corpus affectum est; aut, cum inusitatos et inutiles cibos aliquis assumpsit, aliquidve simile incidit. Hinc præter tabem, illud quoque nonnunquam accidere solet, ut per assiduas pustulas, aut ulcera, summa cutis exasperetur, vel aliquæ corporis partes intumescant." * This description certainly coincides in many points with that of scorbutus penned by Willis. But it would be foreign to my present object to pursue this point further.

I will conclude these remarks by reminding the reader of the immense importance, in medical practice and medical study, of the Diagnosis of diseases. Indeed, the future progress of our science and art would appear to depend very much on the pains bestowed in uniting a rectified nomenclature with the due and strict identification of diseases and appropriation of remedies.

Nottingham, November 5th 1819.

V.

Case of Hydrophobia originating without any obvious Cause. By George Ballingall, M.D. late Surgeon to his Majesty's 33d Regiment, and Surgeon Extraordinary to his late Royal Highness the Duke of Kent.

Dear Sir,—An abridged statement of the following case having been lately published in Dr Coleman's Thesis, I am anxious to have an opportunity, through the medium of your Journal, of stating the case more at large, and of mentioning some additional particulars which support the idea of its being a genuine and spontaneous instance of hydrophobia.

This was the last of six cases of hydrophobia which occurred

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* Lib. III. Cap. 22.

in the Second Battalion of the Royals during my service with it in India. All of these were seen by Mr Davidson, Surgeon of the regiment, and four of them by myself. Mr Paterson of the 25th Dragoons, who was called into consultation, had also (to the best of my recollection) previously seen cases of the disease; it will, therefore, I think, scarcely be contended that we were deceived as to its nature.

In addition to the circumstances stated in the detail of the case as proofs of its spontaneous origin, I may mention, that a native girl, who had lived with the patient for many years, was particularly questioned as to his having received any bite or other injury, but could remember nothing likely to have given origin to the disease.

The hospital attendants having seen us employed in inspecting the surface of the body, concluded that this was all the examination we wished to make, and proceeded to bury it, which prevented the dissection; a circumstance I very much regret, although, in my previous dissection of hydrophobic patients, the morbid appearances have been so scanty and ill-defined as to render it doubtful whether, in this instance, dissection would have thrown any additional light upon the subject.

If I am not extending this communication to an unreasonable length, I would beg leave to take this opportunity of stating the following circumstances as illustrating the beneficial effects of early excision in cases of the bite of a rabid animal. On the morning of the 8th of February 1810, when quartered at Hydrabad, four men were brought to me who had all been bitten by the same mad dog in the course of the preceding night, two of them about 11, P. M., the others towards 4 in the morning, about two hours previous to my seeing them. The bitten parts in all of them were immediately removed, and caustic applied to the wounds. In about a month afterwards symptoms of hydrophobia appeared, and speedily proved fatal to the two first bitten, while the others, in whom the virus could not have remained more than two hours, were never affected with any symptom of the disease.

GEORGE BALLINGALL.

Howe Street, 25th August 1819.

6, P. M.—Private JOHN VERBLANKER, æt. 54, a native of Flanders, twenty-eight years resident in India, a man of a spare habit and sallow complexion, was first reported sick this morning, at which time he complained of nothing but a slight uneasiness about the pit of his stomach, and also at the top of the sternum, attended with a slight degree of nausea, and loathing of

food; for this he was ordered a dose of rhubarb, which has produced two stools. He complains at present of urgent thirst, but shews the utmost horror at the approach of water, and is affected with violent spasms of the muscles of the throat whenever it is brought near him; shows also an aversion to light, and an extreme sensibility to the accession of cold air. The uneasy sensation at the top of the sternum is much increased, and he discharges a great quantity of ropy phlegm by the mouth. On inspecting the fauces, a slight degree of preternatural redness is the only thing remarkable. Pulse quick and small; heat natural.

Affusio frigid. statim. Cap. opii pur. gr. x. et applic. vesicatorium sterno.

8, P. M.—Six large pots of cold water were poured over him, which he bore with much resolution, but did not seem at all relieved by it. Blister has been applied to the sternum, and ten grains of opium administered. He has also, with great exertion, drunk about half a pint of wine, and a small quantity of arrack; when urged to take more, he expressed an apprehension that we wished to make him drunk, and objected to renew his efforts.

The patient was at this hour visited by Mr Paterson of the 25th Light Dragoons, who recommended the injection of two or three purgative clysters, to ascertain that his bowels were thoroughly emptied, and then the exhibition of opium in the form of injection. Two purgative injections were accordingly thrown up, and returned without any appearance of feces. The patient was immersed for about twelve minutes in a tub of warm water, from which he expressed relief; and on coming out took ten grains more of opium, and had an injection containing ½ oz. R. opii.

21st. 5, A. M.—Has slept none, and has been extremely restless during the night. He now appears much exhausted, but is perfectly collected in his mind, and evinces great resolution; pulse very small; skin cold and moist; blister slipped off during the night, and was not replaced. Expresses a wish to be again put into the warm bath, which, he says, is the only thing from which he has experienced any relief; wishes also for an emetic to assist in removing the phlegm, of which there is still a profuse discharge from the mouth. A strong solution of tartar emetic was prepared, of which he took one dose, a warm bath was also ordered, but while it was preparing the patient sunk and expired.

The most singular circumstance attending this case was, that neither the patient himself nor any of his comrades could recollect his ever having been bit, or sustained any injury whatever likely to have produced the disease. His extremities were minutely examined, but no scar was perceptible.

I regret that circumstances occurred to prevent my making an inspection of the body after death, as it would have been highly satisfactory to have seen whether the appearances in the gullet and stomach corresponded with those I have observed in other cases of hydrophobia.

The advanced age of this patient would probably have prevented the trial of blood-letting, even if we had been inclined to adopt it; but five instances of the failure of this practice (besides that of Serjeant Clarke *) having now come to my knowledge, I have just as little confidence in blood-letting as in every other remedy recommended for this horrid disease.

Bangalore, April 20, 1813.

VI.

Account of a Case of Fracture of the Neck of the Femur, in which a Bony Reunion had taken place within the Capsular Ligament. By Robert Liston, Surgeon, and Lecturer on Anatomy and Surgery, Edinburgh. *(With an Engraving.)*

Although the greater number of French surgeons have, for many years, considered the union of a fracture of the neck of the femur, within the capsular ligament, as by no means rare, and generally to be accomplished by proper treatment,—still most surgeons in this country have maintained a contrary opinion, and have doubted the accuracy of these observations.

On that account, the dissection of a case of fractured femur within the capsular ligament, where a complete bony union had taken place, may not be deemed unworthy of a place in your Journal.

This opposition of opinion between the surgeons of the two countries, has been owing in a great measure to the difference

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* See Edinburgh Medical and Surgical Journal, No. XLI. p. 74.

of treatment they have employed. British surgeons, being contented with tying the patient's knees together, bending the thigh upon the pelvis, and the leg on the thigh; and even if splints be applied, they are commonly short, and ill-calculated to prevent any displacement or motion betwixt the fractured extremities. By such treatment, the broken ends of the bone may, in the first instance, be put in correct apposition, but very soon the shaft of the bone is pulled upwards, the limb shortened, and the toes turned outwards. The next day, the surgeon replaces them,—again they are displaced,—and this happens day after day, so that no bony union is allowed to take place, and the patient is left to drag about a useless limb for the remainder of his life.

The greater number of the surgeons of this country are so thoroughly convinced that it is impossible for union of a fracture of this description to take place, that not even an attempt is made, in many cases, to assist the natural process, and many instances there are of persons who have had the misfortune to meet with this dreadful accident, and who have been told, that nothing could be done for their relief, and that they must necessarily remain lame for the remainder of their lives.

It is not, then, to be wondered at, that so many preparations of fracture of the neck of the femur, within the capsular ligament, are to be met with in the museums of this country, in which the fractured extremities are smooth, covered with a cartilaginous-looking substance, and forming part of the cavity of the original joint. Several such preparations I have at different times dissected and had in my possession. In M. Desault's surgical works by Bichât, after the different plans of treatment have been considered, and among the rest that of Foubert, which, though bad, is still better than that usually employed in this country, the following observation is made, which is quite to the point.

"La methode de Foubert ne fait elle pas presque ce que l'on opere dans ces experiences, ou dans une fracture faite expres sur un animal? On agite souvent les fragmens, pour empêcher leur reunion, et produire une articulation artificielle." Tom. I. p. 231.

I believe, if proper means were taken to keep the parts steady, and in apposition during the time required for their consolidation, such preparations as the one I shall describe would soon become very common, and we should not have so many lame and helpless objects from this cause.

I should think that the permanent extension, as employed by Desault, or, what is perhaps better, as produced by the long

splint which is used at St George's Hospital in fracture of the thigh, is the best means of favouring the union, by keeping the limb steady.

The splint I allude to is made of thin board, hollowed out to the shape of the limb, and reaches from the toes to the short ribs. The whole apparatus being firmly attached to the limb by a roller begun at the toes and carried upwards to the groin, a bandage passed under the perinæum, and through an opening in the top of the splint, when tightened of course extends the limb as much as required. It is also furnished with a foot-piece on the outside, which prevents the toes from turning outwards. The short splint is not required on the inner side of the thigh, as in fracture of the body of the bone. This splint is very useful in all fractures of the upper third of the femur; but I believe that by attention, those of the lower third and middle of the bone can be equally well treated, by placing the limb on the side with the knee and thigh bent, and by the use of the paste-board splints, at the same time directing the position of the toes.

The following instance of union of the fractured neck of the femur occurred to me some time ago in dissecting a body, the previous history of which was unknown.

The limb was shortened fully two inches, and the toes turned outwards. On opening the capsular ligament, which was quite entire, the neck of the bone within it was found to have been fractured, and a perfect bony reunion to have taken place. There was, however, a considerable diminution of the length of the neck of the bone, partly from absorption, but chiefly from displacement, the body of the bone having been drawn upwards on the neck fully one inch.

The particular appearances will be best understood by a reference to the annexed sketch. The bone itself is preserved in the Museum of the Royal College of Surgeons in London.

EXPLANATION OF THE SKETCH.

A. The original situation of the neck of the bone. It wa covered with the capsular ligament, which adhered firmly to i but has been partly removed to shew the surface more distinc ly. It would appear that the ligament had been stretched acr the fractured surface from its original attachment F, and h united with it so as to come nearer the position the neck of bone had taken.

B.B. The capsular ligament, with the line of fracture im

Edin.r Med.l Surg. Journal N.o 63.

Mr. LISTON'S CASE.

Edinburgh Published by A. Constable & Co. 1820.

diately within it. Both internally and externally there is considerable deposition of bone.

C. Another branch of the fracture, extending more towards the head of the bone.

D. A portion of the neck which is included betwixt two branches of the fracture.

E. A fissure separating a new process of bone from the trochanter minor.

F. The original attachment of the capsular ligament.

G. The round ligament, which, when recent, was extremely vascular.

Further Remarks on M'Nair's Case, from page 70.

I think it a duty I owe to the profession to give the ultimate result of M'Nair's case, published in the last number of this Journal. In my last report of him in that number I described the wound as cicatrizing rapidly, and stated that he returned home exactly three weeks from the date of the operation.

On the 1st of January I had a letter from Mr Gray of Kinross, a very excellent surgeon, who, after some remarks on the operation, &c. goes on to say, that "his general health seems to have improved somewhat since he returned to Kinross, and the wound, which was filled up with healthy granulations at that time, is now well advanced in cicatrization. However, for some days past the sore has put on rather an unhealthy appearance, and at the upper part of the wound, about an inch from the place where the subscapular artery had been tied, there has arisen a considerable fungous excrescence about the size of a walnut, of a darkish purple colour. This was only observed on Monday last, (December 27,) for the first time, of a bluish tint; next morning, however, about two o'clock, he awoke drenched in blood. I was a good deal alarmed, and went to his lodging as speedily as possible; but by the time I arrived the hæmorrhagy had stopped, and, on removing the dressings, found that the bleeding had arisen from the fungus, which had increased in the course of twenty-four hours from the size of a pea to that of a cherry. From examining the bedclothes I suppose he may have lost from lb. i. to lb. iss. Since that time there has been a slight oozing of blood, but this has not been to any extent. The fungus, however, is rather increasing in size, and there seems to be slight swelling above the wound. The portion of scapula that has been left is more prominent than the corresponding one on the opposite side, and

seems as if it were raised by some growth below it. This appearance, however, may be owing in part, at least, I conceive, to the division and removal of so many muscles in the operation. The fungous excrescence seems to be attached to, or rather projecting from under the cut edge of the scapula. He has little or no pain in the part; and the arm which was so much wasted before the operation has acquired the size of the other, but he has not recovered much more power in it since he returned to Kinross."

As I was naturally much interested in the case, I set off next day to Kinross. On my arrival I called on Mr Gray, and accompanied him to our patient's house. We examined the sore together, which corresponded in every respect with the preceding very accurate description. The projecting tumour, however, had attained the size of an apple, and by the sides of it on pressure a quantity of bloody serum issued. The rest of the sore was completely cicatrized. As I determined on having him removed to Edinburgh under my own immediate care, I was unwilling to examine the nature of the swelling very accurately in case of hæmorrhagy occurring. It was accordingly dressed up with a firm compress and bandage. We had just reached Mr Gray's house when a message was delivered that the bleeding had returned more violently than ever. On hastening to his assistance, we found his clothes wet with arterial blood, and on removing them, with the bandages, &c. quickly, perceived that it flowed from the sides of the dark-coloured tumour. Although this projecting mass had every appearance of an organized tumour, I had from the first doubts regarding it; and, on the idea that it was merely coagulum, (as it proved to be,) twisted off the projecting part, and with my fingers cleaned the cavity down to the bone. I then dilated the opening in the integuments with a probe-pointed bistoury, so as to assure myself, by actual inspection of the bone, that the blood proceeded from its substance. By the application of dossils of lint it was easily commanded, and the whole being secured by a firm bandage, he next day, without any accident, arrived in town.

I at this time proposed the removal of the diseased bone and arm; in this, however, I met with no encouragement from Mr Russell and the others consulted, who, though from different reasons, all agreed in this. On the removal of the dressings no bleeding occurred, and every thing looked so well, that I for some time flattered myself, that, by dressing from the bottom of the wound, and the application of escharotic or actual cautery to the diseased bone, a firm cicatrix might be obtained.

I applied the solution of the nitrate of mercury (the eau mercurielle of the old surgeons) by means of lint. Small fungi, at first like flabby granulations, gradually assuming a dark red colour, frequently appeared. If allowed to run their course, they burst with considerable hæmorrhagy, and ultimately the same phenomena might have occurred as at Kinross. I, however, at their first appearance, opened them, and stuffed the cavity to the bone (to which they uniformly led) with the caustic solution. In this way, during three weeks that he remained in Edinburgh, the hæmorrhagy was completely restrained. The wound, however, became filled with loose spongy granulations, and apparently from the enlargement and disease of the glenoid cavity, the head of the humerus was dislodged from it and dislocated forwards. This was attended with considerable pain and swelling of the top of the shoulder. Many of my professional friends, in whom I had confidence, visited the boy at my request; and as the disease appeared to be out of the reach of external applications, and, as the more severe of these seemed only to add to his suffering, without any ultimate prospect of benefit, I again proposed the removal of the remaining portion of the scapula and arm, with half of the clavicle. I represented the ease with which the subclavian might be tied by turning forward the scapula from the ribs, and that in this way the boy would lose but little blood. Some thought that the cautery ought to be tried, at the same time expressing their opinion that it could not check the disease. This plan I rejected as cruel; others thought that there was not enough of strength left to enable the patient to bear the operation. As I could get no one to second me in my opinion, I was very unwillingly obliged to give up all thoughts of operating, and sent the boy home. I was induced to do so the more, that at this time a severe cough and expectoration came on, with symptoms of hectic.

In answer to my inquiries, I have to-day (February 28th) received a letter from Mr Gray, part of which I take the liberty of quoting.—"I have delayed writing you concerning M'Nair, only in consequence of nothing very particular having occurred in his case since he returned to Kinross. There was, indeed, a very great discharge of thin matter from the sore, and also from an opening which formed on the top of the shoulder, which took place in a few days after he came home. This relieved considerably the hectic symptoms, and the cough, which was so very troublesome, has now entirely left him. There has been no hæmorrhagy from the wound, further than a slight oozing once or twice. The sore, however, has spread considerably, especially to-

wards the axilla, and there seems to be an immense collection of coagula, which are retained in the wound only by a thin layer of coagulable lymph. These give the sore a very ugly appearance, and the discharge from the loose and flabby granulations which intersect the coagula is very offensive. The head of the humerus can be felt lying on the fore part of the joint, and out of the glenoid cavity. There have been a number of small blisters, which have formed on the top of the shoulder, containing a whitish watery fluid, which break and leave a small sore, which, however, soon heals, and this is succeeded by another, which runs the same course. Within the last few days he has complained of pain in the elbow-joint of the affected arm, which is a good deal swelled. He is now very much emaciated, and his appetite is falling off considerably."

It is now obvious, that no surgical operation can be attempted, from the state of the poor boy's health, as well as the probability of the disease having spread along the glands into the chest. I am only sorry that I did not, when he was in town, even against the advice of those surgeons who saw him, make at least the attempt to save his life by the removal of the extremity.

Since the publication of the last number of this Journal, I have removed, amongst others, several tumours composed of cartilage, and containing cells filled with a glairy fluid. These tumours generally adhere to bones on which they commence, and which are frequently deprived of their earth, and rendered soft by pressure. * The circumstances of one only I shall relate, as in it a portion of the scapula was also removed.

The subject of this case, when a boy, fell from horseback, and pitched on the top of his right shoulder; some swelling supervened, on the subsidence of which a hard tumour was perceived over the acromion process. This continued stationary, though repeatedly inflamed from slight injuries till six months ago, when, in throwing back his arms to save himself in falling among slippery stones, the part was strained, and from that time it began to increase very rapidly, and extended in every direction, so as, in a great measure, to destroy the use of the arm.

I found the tumour covering the acromion, the articulation of that process with the clavicle, and a great portion of the spine of the scapula. From this attachment it stretched over the articulation of the humerus to the origin of the brachiæus. The

* I am not aware that any very accurate account has been given of this very intractable class of tumours.

projecting part measured 18 inches in circumference. The skin was discoloured over the whole surface, some points of which were prominent and soft, but the greater part of the mass was exceedingly hard. The tumour admitted of no motion, but by fixing it the humerus could, though to a very slight extent, be carried in different directions independently of it. From this circumstance I thought it probable that the disease did not extend into the joint, and was induced, in consultation, to propose at least, by an attempt to remove the tumour, to save the arm. This was agreed to, though, from the slight hopes some of the surgeons entertained of its being possible to accomplish the object, the patient was made aware that it might be necessary to remove the extremity also. With the greatest firmness the gentleman immediately agreed to submit to the operation, even on these terms, which I accordingly performed, with the assistance of my friend Mr Nasmyth, and in presence of Mr Russell.

On dividing the integuments the fibres of the deltoid presented themselves covering the swelling; these were cut through on both sides, and the upper part of the humerus and capsular ligament dissected clean. I then found, that, by removing a portion of the scapula, the arm might be saved. The bursa betwixt the acromion and ligament was cut open, the articulation of the clavicle separated, and the acromion sawn off by its root, along with half of the spine. Several portions of the scapula were then removed with the knife, to which they readily yielded, being quite cartilaginous. Little of the integuments could be saved on account of their diseased and adherent state, of course a considerable surface, with the capsular ligament, was left exposed. The ligament and bone granulated as speedily as the rest of the sore, and the whole is cicatrizing rapidly. The tumour was composed of cartilage and firm fibrous or ligamentous substance, containing pretty large cells, which extended even to the integuments, and were marked out by the soft, red, and prominent points on the surface; these contained a glairy yellowish fluid. A cavity corresponding to the convexity of the humerus formed a complete cap or covering to the joint. The surface of the capsular ligament was connected to this cavity by very delicate and thin cellular substance. Even though the ligament had been found adhering firmly to the substance of the tumour, and on this account it had been necessary to open and remove a portion from it, I should have been inclined to have left the arm, trusting to nature for some attempt at its regeneration. Though the joint in this way had been disabled, still the fore-arm would have been very useful in writing, &c. which, to a man of business, was of great consequence.

My friend Dr Kennedy, physician in this city, who served long as a surgeon in India, assures me that he has seen the capsule of the shoulder laid open extensively by sabre blows, and wounded also by musket balls, without the loss of the extremity, or even much diminution of its power or motions.

56, *George Street, Edinburgh,*
February 29, 1820.

VII.

Dissection of Two Cases of Club-Foot. By THOMAS M'KEEVER, M. D. one of the Assistants to the Dublin Lying-in-Hospital.

AUTHORS have differed much with regard to the exact structure of the parts concerned in the deformity termed club-foot. Their varied and discordant accounts of those cases where an opportunity was afforded of examining the parts by means of actual dissection, I conceive to have arisen from two causes. In the first place, the deformity, in all probability, differs considerably in different individuals; and, in the second place, those dissections have been made at different periods of life, when, of course, the parts must have been more or less modified, according to the greater or lesser degrees of pressure to which they may have been subjected. It has, perhaps, been owing to the latter cause that the two latest and most distinguished writers on the subject, namely, the celebrated Scarpa, and Professor Collis of this city, should have differed so materially in their views of the original condition of the parts; the former conceiving the deformity to be altogether occasioned by the bones being turned on their short axis; while the latter, in an extremely interesting and important essay, to be found in the first volume of the Dublin Hospital Reports, maintains the existence of considerable deviation from the natural structure.

Early but ineffectual efforts to remove the deformity may also have contributed to render the history of many of those cases complex and unsatisfactory.

Having lately had an opportunity of examining two cases which occurred in the Lying-in-Hospital of this city, where the parts were never subjected to the slightest pressure, and where, of course, the most satisfactory opportunity was afforded of as-

certaining their real and original condition, an account of them, in the absence of more important information, may perhaps prove interesting to the profession.

The foot was thrown with the external edge downwards, the internal inclining upwards and somewhat inwards; the dorsum, which was convex in the longitudinal direction, looking directly forwards. The sole was quite flat, both transversely and longitudinally, and was marked by a deep ruga, which ran completely across; to this another just under the inner ankle passed at right angles. The heel wanted its natural degree of projection, while on the dorsum of the foot, at its most convex part, two considerable prominences were observed. The toes were not separated more than in ordinary, nor was the leg at all deficient in natural fulness.

On removing the integuments, nothing deserving of notice presented itself in the muscular parts. They were as well developed as in ordinary cases, nor did the tendons appear to bear a greater than usual proportion to the body of the muscle. The patella was not in a line with the outer ancle, as was observed in Mr Collis's cases; indeed, there was nothing either in the general form of the limb, or internal arrangement of its parts, that in the smallest degree differed from the usual structure.

It is curious, that the parts which I conceive would have formed the base of sustentation, had the child lived, were covered with that peculiar kind of fat which is found in such abundance under the integuments of the sole of the foot. The two prominences on the dorsum of the foot, already alluded to, were next examined, and were found to be occasioned by the projecting of the navicular head of the astragalus, and by the os calcis, where it joins the cuboid bone. Corresponding to these points on the sole, there was a large mass of fat, which, when removed, left a deep and sharp angular hollow, formed between the two rows of tarsal bones. The back part of the os calcis leaned against the posterior part of the extremity of the fibula, while the lower extremity of the tibia rested on the os naviculare. At each of these places, there was some appearance of an articulation, the opposed surfaces being smooth, though not so much so as in an ordinary joint. The internal cuneiform and navicular bones were attached by means of strong ligamentary bands to the inner ancle. I was now proceeding to examine what share each individual bone had in producing the deformity, and for this purpose divided the ligamentary bands just spoken of, when I was much surprised to find that I could, with the greatest facility, reduce the foot into its natural shape, the ligaments which opposed this direction being both weak and

loose. In the individual bones of the tarsus, little or no peculiarity could be observed; the neck of the astragalus was somewhat longer than usual, but there was no twisting of the neck of that bone, as observed by Dr Collis, nor was there any marked line between the intra-articular portion of the navicular head of the astragalus and that part which lay without the articulation; the latter, however, appeared of a more vascular and spongy texture. I examined the ancle joint with a good deal of care, but could discover nothing very peculiar in its formation; the surfaces had a slight inclination inwards, which of course favoured the twisted form of the foot.

Had either of these subjects lived, the parts which would have formed the basis of support, when the foot was applied to the ground, would have been the external surface of the os calcis, the cuboid, the little toe, and, perhaps, the one next it, with their metatarsal bones.

Before concluding, it may be worth mentioning, that in both cases the deformity was combined with spina bifida of very considerable extent. In the first, the tumour, which was of a bluish livid colour, extended from the last dorsal vertebra to near the point of the coccyx. The spinal marrow was observed to degenerate into a substance of a brownish yellow colour, and of very soft consistence, and then spread out in a lash of nerves on the interior of the sac. The anterior crural and sciatic nerves were found as large and as firm as in ordinary cases, and preserved this structure until their arrival at the sides of the vertebra, when they degenerated into the soft pulpy substance already spoken of. *Dublin, Nov.* 2, 1819.

It is somewhat singular, that, since the date of the above communication, another instance has occurred in the Lying-in-Hospital of this city, of a similar combination of deformities. The child having lived but a few days, I had an opportunity of examining the parts, and as the dissection was made with a good deal of care, I shall feel obliged by your embodying the remarks I have now to make in the paper already in your possession.

The formation of the feet differed but little from the cases already communicated, the spina bifida, however, was examined with much more minuteness, and it is to the latter subject that I wish at present particularly to direct your attention.

On making an incision into the sac, a turbid fluid, of a brownish yellow colour and of thin consistence, escaped; in quantity it did not exceed a table spoonful. I propose examining this fluid the first leisure moment I can command, and shall send you an analysis of it at some future period, as I am not aware that its chemical composition has yet been ascertained.

The spinal marrow was found to terminate at the 11th dorsal vertebra, in a brownish vascular knob, from the extremity of which there came off two delicate nervous twigs of about an inch in length, there ending in a ganglion of a yellowish brown colour, which ran along the posterior wall of the sac, giving off on either side the lumbar nerves, as also those of the inferior extremity. The anterior crural nerve was examined with a good deal of care. Its distribution on the inferior extremity, as also its size and consistence, were found to be the same as in ordinary cases: after arriving, however, at the aperture for its transmission in the sides of the vertebra, it suddenly degenerated into a brownish pulpy substance, similar to the ganglion already mentioned, appearing to lose altogether its medullary character. After perforating, in the manner usual with all nerves, the dura-matral covering, it traversed the turbid fluid contained in the sac, and terminated by subdividing into a minute plexus of nerves, which was ultimately lost in the ganglion that passed along the posterior parietes of the tumour. *

Dublin, Nov. 25, 1819.

VIII.

Case of Infantile Resuscitation. By Mr William Tomkins.

July 25, 1819.—I was requested to attend Cathrine Delany, as her accoucheur. I went immediately, and found the os uteri dilated to the size of a half crown, the membranes were not broken, and, therefore, I could not correctly ascertain what part presented, but supposed it to be the hip. In three hours the waters came away, and the left knee protruded from the external parts. The breech was delivered in about a minute. On feeling the cord, I found its pulsation completely stopped. The face of the fœtus lay towards the abdomen of the mother, so that I was obliged to turn it into the hollow of the sacrum. The child was a very large one, the fontanels ossified, and the

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* Should further dissections prove the general existence of this structure, might it not suggest the propriety, in those cases where the child survives to an adult period, of avoiding the puncture at the posterior part of the sac? A lighted candle held laterally might, perhaps, enable us to select that spot where no risk would be incurred of wounding any of the nervous twigs.

arms turned up to the head, in consequence of which, about three minutes and a half elapsed between the delivery of the breech and that of the head. It may be right to mention too, that the cord was twisted once round the neck, and once round the face above the nose. I felt the child move when examining a few minutes before the waters came away, and, therefore, knew it was alive at that time, but when born it was completely livid and much colder than natural; it did not respire, neither could I discover any, even the slightest action of the heart; indeed, no visible symptom of life remained.

I gave it some smart raps on the glutei muscles, immersed it in a pan of warm water, passed a female catheter down the larynx, and instantly began to inflate the lungs, alternately inflating and depressing the chest. Having proceeded in this way for half an hour without remission, I took it out of the warm water, and again struck it smartly on the buttocks and back; the nurse then rubbed it for some time with warm flannel, after which I placed my hand on the left side of the chest, to feel if there was any pulsation of the heart, but could distinguish none, nor do I believe that any action had as yet commenced.

The child being replaced in the warm water, I resumed my attempts to resuscitate as before, and after having persevered in all an hour and seven minutes from the birth, I perceived a slight effort or motion in the mouth, accompanied by a guggling noise. This encouraged me to continue my exertions, and in a few minutes the child gasped frequently, but with great difficulty; its heart soon began to beat, the inspirations became frequent, the pulsation at the navel-string was strong, and in three hours and a half from the birth, respiration was regularly and easily performed, the pulse at the wrist distinct, and the appearance of the child in every respect perfectly natural. It is right to mention, that I did not discontinue occasionally to inflate the lungs, for full three hours, though it was not constantly employed more than an hour and a half.

This case serves to shew, that the visible operations of vitality may be suspended much longer than is generally imagined, and is adduced with a view to stimulate accoucheurs to exert themselves on similar occasions, and not too hastily decide that life is extinct, because they cannot discover any of its evident actions.

Sutton Street, Southwark, September 25th, 1819.

PART II.

CRITICAL ANALYSIS.

I.

An Account of the Varioloid Epidemic which has lately prevailed in Edinburgh, and other parts of Scotland, with Observations on the Identity of Chicken-Pox with modified Small-Pox. In a Letter to Sir James M'Grigor, Director-General of the Army Medical Department, &c. By JOHN THOMSON, M.D., F.R.S.E., &c. Professor of Surgery to the Royal College of Surgeons, Regius Professor of Military Surgery in the University, and Consulting Physician to the Edinburgh New Town Dispensary. 8vo. pp. 522. Edinburgh, 1820.

THIS work has many claims on our attention, not merely on account of the distinguished character of its author, and the novelty and ingenuity of the views it contains, but also, because it is the most comprehensive and authentic record of the observations that have been made on the late epidemic small-pox in this country. The zeal and industry with which these observations have been prosecuted, and the candour with which several of the conclusions resulting from them have been admitted, even when at variance with preconceived opinions, have been highly creditable to the practitioners in this part of the country; and, if they have not disclosed facts hitherto unknown, they have at least illustrated so fully the frequency of occurrences hitherto considered as anomalous, that they may fairly be said to have added considerably to our knowledge of the disease.

Two years ago, when variolous eruptions in vaccinated persons were talked of, almost every practitioner was accustomed to ascribe them either to the contagion of chicken-pox, accidentally co-existing with that of small-pox, and mistaken for it, or to imperfect or spurious vaccination. At present, we believe, there is hardly a practitioner in Scotland who is surprised, and we rejoice to think, that there is no one who, in ordinary circumstances, need be alarmed, at meeting with cases of fever and eruption, certainly proceeding from the contagion of small-pox in persons regularly vaccinated. The occurrence of small-pox for the second time in the same person, which was doubted by some, and held to be quite marvellous by almost all, has been shewn by the accurate observations and learned researches of Dr Hennen, and by the more extended and laborious inquiries of Dr Thomson, to be, though a rare, by no means an anomalous event. The occasional occurrence of a milder febrile eruption, in one who had previously gone through small-pox, in consequence of re-exposure to the infection of that disease, that is, the existence of a modified small-pox after small-pox, which was some time since pointed out by Mr Bryce, to be a more common occurrence than has been generally imagined, has now been fully illustrated. The distinctive marks which have been thought by many sufficient to characterize chicken-pox, particularly the vesicular form and short duration of the eruption, have been found inapplicable to various cases that have occurred, even in constitutions altogether unprotected. And lastly, we have in this volume a physician and professor of the first eminence, coming forward to state, that the observation of this epidemic "has compelled him, most reluctantly, to abandon opinions" in regard to the essential distinction of chicken-pox and small-pox, "which he had entertained for 30 years, and which he had taught with increasing confidence for more than half that period."

We believe that it is with regard to this last opinion only, that there is now any difference of opinion among the practitioners of Edinburgh, and to this part of the subject, therefore, the present work is chiefly devoted. In regard to all the others, we have, in this part of the world, already made up our minds. Nevertheless, as the conclusions to which we have been led differ in some respects from the doctrines still maintained by high authority in England, it cannot be thought a work of supererogation to take a general review of the evidence which the work before us, and other late publications, as well as our own observation of the disease, furnish on these subjects.

We shall in the first place then, briefly recapitulate the most

material information that we possess, relative to the occurrence of modified small-pox in vaccinated persons, along with regular and unequivocal small-pox in the unvaccinated.

Dr Adams of Forfar, the first Scottish practitioner who has observed and carefully described any considerable number of facts of this kind, gives an account in the Appendix to the work before us, No. IV. of 150 cases of modified small-pox after vaccination, of which he obtained information in the town of Forfar and its neighbourhood in winter 1813-14.

Several cases occurred in the practice of the New Town Dispensary here, in October 1815, which were at that time mistaken for chicken-pox, accidentally co-existing with small-pox. *

In spring 1817, many cases occurred at Cupar in Fife, of which the first notice was given by Mr Grace, surgeon there, in a letter to Dr Duncan, senior. † This place was afterwards visited by Dr Dewar, who published an account of 54 cases of the modified small-pox, and contrasted it with the natural small-pox, prevailing at the time among the unvaccinated. ‡

In summer 1817, and winter 1817-18, the regular and modified small-pox were frequent at St Andrews and Dundee. Dr Mudie, of the former place, saw upwards of 70 cases, many of which were of the modified kind. § Dr Ramsay of Dundee appears to have seen many cases of the latter, but does not state the number; but from the circumstance of the alarm excited in that town having led to a meeting of the Governors of the Infirmary, and the appointment of a committee to investigate the failures of vaccination, it may be presumed, that the cases of modified small-pox there must have been numerous. ‖

Mr Black, surgeon at Newton Stewart, gives an account of 62 cases of modified small-pox which occurred at that place in the summer of 1817, in connection with regular small-pox in the unvaccinated. ¶

In winter 1817-18, Mr Thomson, surgeon at Alloa, saw above 100 cases of eruption, "which he judged to be either chicken-pox or small-pox very much modified, in that neighbourhood, which existed along with, and in some cases appear

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* Medical and Surgical Journal, Vol. XII. p. 247.

† Ibid. Vol. XIII. p. 405.

‡ Account of an Epidemic Small-pox prevailing at Cupar in Fife in spring 1817.

§ See his letter to Dr Thomson, p. 238.

‖ See Dr Ramsay's letter in Dr Monro's "Observations on the Different Kinds of Small-pox," &c. p. 150.

¶ Medical and Surgical Journal, Vol. XV. p. 42.

to have been distinctly traced to the infection of regular small-pox." *

In the year 1818, Dr Dewar saw many cases of regular and modified small pox at Kirkaldy and its neighbourhood, exactly similar to what he had seen the year before at Cupar, but the number of cases of modified small-pox appears from his statement to have been five or six times greater on this than on the former occasion. †

In spring and summer 1818, Mr Smith of Dunse (Berwickshire) states, that he saw "a multitude of cases of small-pox taking place in every possible shape after vaccination," which, however, appear from his farther statement to have been uniformly modified. ‡

Mr W. Gibson of New Lanark, in his excellent letter to Dr Thomson, states, that he had seen in that village, which is admirably well fitted for medical observations, 251 cases of modified small-pox in the year 1818, along with 57 of regular small-pox in the unvaccinated. §

Mr J. Gibson of Lanark states, that he had seen the disease, in the same year, in upwards of 200 persons who had previously passed through regular cow-pox; and he had information, besides, that upwards of 50 vaccinated individuals had passed through the disease in the village of Kirkfield. ‖

Mr Vessie of Lanark saw it at the same time in upwards of 60 persons, who had previously passed through regular cow-pox. ¶

Dr Henderson of Perth saw the same disease in 37 vaccinated persons in the year 1818, and succeeding winter. **

Mr Syme of Blairgowrie states, that in the year 1818 "there have been a great many cases of varioloid disease among us," and that "it attacked indiscriminately those who had been vaccinated, and those who had not; still, however, it was generally milder in the former case." ††

Mr Malloch of Kirriemuir, Forfarshire, states, that a case of modified small-pox after vaccination, in consequence of exposure to the infection of regular small-pox, occurred there in the winter 1818-19, after which "the disease spread in all directions." He does not specify the numbers affected, but says, that "among the unvaccinated the mortality was very great." ‡‡

The 14th volume of this Journal (p. 389) gives an account

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* Monro's Observations, &c. p. 200.
† Medical and Surgical Journal, Vol. XV. p. 375.
‡ Letter to Dr Monro, Observations, &c. p. 196.
§ Account of the Varioloid Epidemic, &c. p. 252.
‖ Ib. p. 259. ¶ Ib. p. 261. ** Ib. p. 264.
†† Ib. p. 274. ‡‡ Ib. p. 277.

of 16 cases of modified small-pox, clearly traced to the infection of regular small-pox, which had occurred in the practice of the New Town Dispensary here, prior to May 1818. Several cases of modified small-pox are also described in Dr Hennen's well known paper in the same volume, (p. 409.)

Dr Monro's work (p. 160, *et seq.*) gives an exceedingly circumstantial and satisfactory account of five cases, seen by himself, three of which were in his own family.* He had seen also several other cases.

Lastly, Dr Thomson states, in the beginning of the work before us, that since June 1818, he "has had occasion to attend to the appearances this varioloid epidemic has produced in 310 persons who had undergone the process of vaccination;" and in a subsequent part of the work he says, "330 cases of small-pox after vaccination have now come under my observation."† A part of these cases are included in the statements of Mr Gibson of New Lanark, and Dr Henderson of Perth, but a great majority of this very large number is additional to the foregoing enumeration.

In almost all the cases which have been put on record in Scotland, it appears that the children were not considered to have been previously vaccinated, unless at least one distinct and characteristic cicatrix remained on the arm. Thus, Mr Gibson states, in regard to the 251 vaccinated children affected at New Lanark, (the greatest number observed within so narrow limits,) "none were taken into consideration but those on whom distinct cicatrices were observable, accompanied often by the most satisfactory evidence from parents and professional men of proper vaccination." p. 255.

The facts which have been thus put on record in Scotland accord perfectly with what has been observed more partially in other parts of Europe. Thus, Mr Oswald, surgeon in the Isle of Mann, saw "many cases in the winter and spring of 1817, for the most part in persons who had undergone vaccination."‡ Mr Dawson of Liverpool has seen "a pustular eruption after vaccination in about three cases in every 200 he has vaccinated," and as he has vaccinated above 3500, he must have seen about 58 cases of this disease.§ Mr Christian of Liverpool has seen modified small-pox after vaccination in about one in 200.‖ Mr Dunning of Plymouth has seen many

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* The other five cases detailed by Dr Monro are included in the Report of the New Town Dispensary, and in the paper of Dr Hennen, just noticed.

† P. 202. ‡ Thomson, p. 286. § Monro, p. 200.

‖ Ib. p. 204.

cases after vaccination exactly corresponding to those observed in Edinburgh, described them 13 years ago, and gave them the name of modified small-pox. * Dr Bent has described an epidemic at Derby in the year 1818, exactly resembling that observed so generally in Scotland. †

In 1817, M. Pougens, physician at Mittau in the south of France, published a pamphlet, entitled "Petite verole, chez plus de deux cents Individus Vaccinès observée au Mittau," and proved that the complaint in these persons was small-pox, by inoculating with the matter of the eruptions, and producing regular small-pox. ‡

It appears from a treatise by MM. Berard and Lavit of Montpellier, referred to by Dr Thomson, that an epidemic prevailed at Montpellier in 1816, which presented so exactly the same appearances with those he has observed here, as to have suggested to these gentlemen the same conclusions which he has attempted in this volume to establish. A "similar idea has nearly at the same time been advanced in Sweden," probably founded on similar facts. § Dr Verdeil of Lausanne, speaking of small-pox prevailing in Switzerland during the years 1817-18, says, in a letter to his son: "Il est arrivè que les enfans qui avoient eu une vaccine preservative, puisque l'endroit de l'insertion avoit tous les caracteres d'une vaccine regulière, ont cependant pris, durant cette epidemie varioleuse, des eruptions plus ou moins abondantes, qui avoient assez les apparences de la veritable petite verole, sans presenter, cependant, cette regularité de marche, qui lui est particulière." ‖ And we were lately informed by a very respectable and intelligent practitioner of Geneva, that he had seen, within the last few years, above 30 cases of modified small-pox (which he thought he could distinguish from chicken-pox, and traced to the contagion of regular small-pox) in that city. There is, therefore, nothing anomalous in what has been observed in Scotland.

We do not suppose that any of our readers can think it necessary for us to enter into detailed statements, in order to shew that the mild disease, described by all those observers in vaccinated persons, proceeded from, and gave rise to, regular small-pox in the unvaccinated. We admit, that if there exist, as we are still inclined to think there does, a real and essential distinction between the chicken-pox and small-pox, a small part

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* Medical and Surgical Journal, Vol. XV. p. 378.
† London Medical and Physical Journal, Vol. XL. p. 461.
‡ Thomson, p. 107. § Ib. p. 14.
‖ Monro, p. 197.

of the cases seen by Dr Thomson, and, perhaps, by some others of the authors just mentioned, in vaccinated persons, and even a few in unvaccinated, will fall to be referred to the head of chicken-pox. But, we believe there is no practitioner who has seen the epidemic, whether he believes in the independent existence of chicken-pox or not, who entertains *the smallest doubt*, that the disease under consideration, in a great majority of the cases which have occurred among the vaccinated, has been produced by the contagion of the true small-pox. It has, in every instance of the foregoing enumeration, existed along with regular small-pox in the unprotected; it has broken out, in many individual cases, at the precise periods when the contagion of that disease, according to the known laws of its diffusion, ought to take effect; it has corresponded in general very exactly to the description given by Dr Willan * and Mr Moore, † of the modified small-pox which they had seen in a few vaccinated persons, and which the former author in particular had produced by inoculating with the matter of cow-pock and small pox at the same time; it has been produced, in a few cases, by inoculating persons previously vaccinated with the matter of true small-pox; ‡ and conversely, inoculation with it has produced, in many cases, regular small-pox in the unvaccinated. §

Neither can we suppose it necessary to enter upon any details in order to prove that the disease which has occurred in unvaccinated persons, and has been called true small-pox, was really such. The *mortality of the disease* in these persons, which has amounted to one in four in the cases seen by Dr Thomson, and which is represented as very considerable in all the letters of his and Dr Monro's correspondents, must appear amply sufficient to determine this point; and Dr Thomson has expressly stated, that the epidemic has appeared to him "to have exhibited in its progress all the varieties of small-pox, from the mildest to the most malignant form of that disease described by practical authors." p. 29.

Indeed, we should not have thought it necessary to advert to this part of the subject at all, had it not been for the following

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* On Vaccine Inoculation, p. 50.

† History and Practice of Vaccination, p. 67.

‡ See Dr Adam's second letter to Mr Bryce, at p. 54 of Dr Thomson's Appendix; and Mr Oswald's letter to Dr Hannay, at p. 286 of his work.

§ See particularly Dr Monro's work, chapter 6. "Of the Effects of Inoculating the contents of the pustules of those who have had the Small-Pox after the Cow-Pox," where Dr Hennen's cases and various others are detailed.

passage in the Report of the National Vaccine Establishment, of the 8th April 1819.

"In several parts of the united kingdom, particularly near Edinburgh, *an anomalous disease*, *bearing some resemblance to small-pox*, has appeared in many persons. It has been described by several professional gentlemen of great eminence and experience. From their statement it appears, that this eruption attacked *indiscriminately* persons who had been previously vaccinated, who had had small-pox, or who had not gone through either disease."

As this statement, coming from so high authority, may prevent many medical men from acquiescing in the conclusions which appear to us to be fully justified by the observations made on this epidemic, and so retard the progress of useful information, we think it necessary to state, that in the foregoing short paragraph, there are two very important misapprehensions. *First*, Although Dr Thomson has given to the whole epidemic the title of Varioloid, and although Dr Hennen abstained from giving any name to the cases he has detailed, yet the disease is *so far from being an anomalous one*, that we are not aware of there being, among the great number of respectable practitioners who have seen the disease in Scotland, *any hesitation whatever* about giving the name of true small-pox to a very great majority of the cases to which we have now referred, occurring in persons not vaccinated. And, *secondly*, The disease has been very far from attacking *indiscriminately* those who had gone through vaccination, those who had gone through small-pox, or those who had gone through neither. In some instances, indeed, as at New Lanark, the number of vaccinated children who have been affected has been so great, that we must suppose the number to whom previous vaccination furnished complete protection against the contagion of small-pox to have been very small; and one of Dr Thomson's correspondents (Mr Syme of Blairgowrie) speaks of the contagion as affecting indiscriminately those who had been vaccinated, and those who had not. But, in general, we believe it will be found, that a small proportion only of vaccinated persons, exposed to the infection, took the disease, while few unprotected persons escaped it. Within the limits of our own observation, which has been pretty extensive, we are satisfied that several vaccinated children have been fully exposed to the infection of small-pox, for one who has taken the modified disease; and this perfectly agrees with what Dr Hennen has stated.

"One vaccinated child only, out of eighteen, caught any disease in the Castle from the inoculated children;"—and again,—"I have

witnessed the neutralizing powers of vaccination still more remarkably among the children of the lower class in the neighbourhood of the Castle, where, while the disease has raged violently among the non-vaccinated children, many instances have occurred of those who had undergone that process, having the complaint in the very mildest possible form, and many of their escaping it altogether; a fact exhibiting the result of a more rigid ordeal of the preventive powers of vaccination, than can be imagined by those who have not witnessed the incredibly crowded and confined apartments, in which these compact masses of human beings gasp for air, while, from the mutual friction of their bodies under the same scanty covering, the most intimate contact takes place between the sound and the diseased, and in many instances effects a complete and constantly renewed inoculation." *

As to the supposition, that the disease has attacked *indiscriminately* persons protected by previous small-pox, and persons wholly unprotected, it may be sufficient to answer, that Dr Thomson has only been able, with all his industry, to hear of seventy-one cases of any kind of febrile eruption in persons who had previously gone through small-pox, while the number in the two other classes seen by himself, and those with whom he has communicated on the subject, has certainly amounted to several thousands.

Having stated the grounds on which it has been concluded, that the epidemic we have lately witnessed has been true small-pox, and that it has produced, in a great many cases, a modified disease in vaccinated persons, we proceed to inquire to what we are to ascribe the imperfection of the security afforded by vaccination to so many persons.

To this the National Vaccine Establishment answer, that the partial failures are owing to *imperfect vaccination;* and they think it quite a sufficient explanation of what has been observed in Scotland, that in those cases in which the particulars of the vaccine process are given, "that process has not been conducted on the plan recommended by this Board, and which *experience has proved to be the most efficacious.*"

Now, although we entertain sincere respect for the members of the National Vaccine Establishment, and although we have no personal interest in the reputation of any one mode of conducting the vaccine process, yet, in reference to the sentence just quoted from the Report of the Vaccine Establishment, we shall take the liberty of reminding our readers of the excellent observation of Mr Moore, applicable to almost all medical evi-

* Med. and Surg. Journal, Vol. XIV. p. 457.

dence, that "few men, even those of considerable capacity, distinguish accurately between opinion and fact."

That the greater number of persons who have been affected with modified small pox in Scotland, were not vaccinated precisely according to the plan recommended by the Board, we believe to be fact, (a great proportion of them having been vaccinated before that plan was promulgated;) but that experience has proved that plan to be the most efficacious, we humbly apprehend to be only matter of opinion. The only fact which we have seen stated in favour of that opinion is this, that in eleven years, 52,253 persons had been vaccinated by the Establishment, and that of these only four *are yet known* to have had the small-pox afterwards. Now, in order to entitle us to dignify the conclusion which has been deduced from this fact with the title of experience, we conceive that information on two other points is required. *First*, we must be informed what measures have been taken to ascertain whether or not any greater number of the persons vaccinated by the Establishment have had modified small-pox. For any thing we yet know to the contrary, great numbers of them may have had that disease without being reported to the Establishment. *Secondly*, we must be informed how many of them have been fully exposed to the contagion of a virulent epidemic small-pox. Three years ago, as strong negative evidence as is now adduced in favour of the plan of the Vaccine Establishment, might have been adduced in favour of the method generally adopted here; and, although we admit that the contagion of small-pox is probably in general more prevalent in London than in Edinburgh, yet it is very rarely absent from Edinburgh. It was when the disease appeared in a more virulent form than usual, and began to diffuse itself more generally than usual among the unvaccinated, and not till then, that it began to affect more frequently the vaccinated; and we have not yet sufficient experience to determine that the same thing may not happen among persons vaccinated by the Establishment.

At present we believe there are much fewer persons in any part of the kingdom who have been vaccinated precisely according to the rules of the Establishment, than who have been otherwise vaccinated; and, therefore, it is naturally to be expected that the modified small pox should occur oftener in the latter class than in the former. When we shall have comparative statements of equal numbers of persons effectually vaccinated in both ways,—that is, so as to leave similar marks on their arms,—exposed to the contagion of small-pox during the same epidemic, we shall be able to judge whether the plan of the Establish-

ment really possess the superior efficacy attributed to it. But, in the mean time, it is quite obvious that the efficacy of any plan of vaccination must be estimated, not by the number of persons subjected to it who are *not known* to take small-pox after it, but by the number who *are known* to be fully exposed to the contagion and resist it.

As the conclusion drawn from the merely negative experience of the Establishment, therefore, does not appear to be fully warranted by the facts, we shall state the reasons which have induced the observers of the late epidemic in Scotland to entertain great doubts whether the imperfection of the security afforded can have been owing to imperfection in the vaccine process.

1. The only peculiarity of the process recommended by the Establishment is, that several vesicles are excited, and at least one vesicle is allowed to run its whole course without being opened. Now, of the comparatively small number in whom this process has been followed in Scotland, *it has not been observed* that they resisted the contagion more than those vaccinated in the more usual way, but in whom at least one equally characteristic cicatrix remained. Thus Dr Adam states, that of forty cases vaccinated by surgeons, who took the modified small-pox at Forfar, it was remembered distinctly that there were twelve, "from whose vesicles no lymph was abstracted, nor did the parts receive any injury from the clothes;" and of these twelve, five had two vesicles, each on the inoculated arm, left unopened. Besides this, he says, what, we believe, applies to a great many of the cases that have occurred in Scotland, besides those at Forfar, "many have had more than one vesicle, but it is not remembered whether one or all may have been opened," the attention of the practitioner having been directed only to the regular formation of the areola. *

In like manner, Dr Ramsay of Dundee, although he very properly recommended that the direction of the Establishment be in future complied with, says expresly, "Several of the most distinctly marked cases of small-pox have occurred in those who had been vaccinated, apparently in the most satisfactory manner, and where the cellulated marks on *both* arms are still as perfect as possible. In most cases, however, the pustules had not been preserved entire, but in several they were so; and in those, no circumstance whatever could be found on the strictest

* Thomson, App. p. 51.

examination to invalidate the evidence of small-pox in its perfect form having succeeded to vaccination in its perfect form." *

The practice which has been followed for many years at the Public Dispensary here, and for several years at the New-Town Dispensary, is to make two punctures on one arm, and to leave one vesicle unopened. Yet many of the children vaccinated in this way have taken modified small-pox.

2. While on the one hand, in such cases as these, vaccination which the Establishment would have called perfect, has given imperfect security, there have been on the other hand, a great many cases, in which vaccination which they would have called imperfect, has given perfect security. We have seldom seen a case of modified small-pox without having occasion to remark that several persons, vaccinated often by the same practitioners, and generally in the same manner, having marks on their arms precisely similar, and equally exposed to the contagion, have escaped entirely. And during the late alarm, a great many children of the higher ranks, at the solicitation of their parents, have been inoculated for the small-pox at different periods after the kind of vaccination commonly practised here, and no constitutional affection or general eruption been produced. One very satisfactory experiment of this kind, on seven children in one family, has been detailed by Mr W. Wood. † Several of Dr Gregory's children were inoculated with small-pox some years ago, at different periods after vaccination, and only a local effect produced; and there have been many other inoculations with the same result. Dr Thomson observes, on this part of the subject, "I know that, in many instances, *single vesicles which had been abraded* have appeared to preserve from infection individuals fully exposed to the contagion of small-pox, or subjected to the test by inoculation." p. 314.

As these considerations appear, in a great measure, to neutralize the general negative evidence which has been adduced in favour of the superior efficacy of the method recommended by the Establishment, we are naturally led to inquire farther, whether there are any reasons, *a priori*, or any facts known from the observation of other infectious diseases, either favourable or adverse to the supposition of the superiority of their method. With this view, Dr Thomson observes,

1*st*, That "vaccine vesicles, if left to themselves, generally burst spontaneously;" and, 2*dly*, That, "though it may be allowed that making four punctures instead of one or two, the number usually

* Monro, p. 154.

† Med. and Surg. Journal, Vol. XIV. p. 400.

made in this country, will *increase the chances of infection;* it passes all power of comprehension to conceive how increasing the number of punctures can in any way tend to *insure the production of a genuine cow-pock.* The admission of this hypothesis would oblige us to believe that vaccine virus differs in this respect from that of small-pox, of itch, or of syphilis. For who ever imagined that the genuine nature of these diseases depended in any degree either upon the quantity of their specific contagions, or upon the number of points on the surface of the bodies through which they had been introduced? Were this supposition to be admitted, it would follow, I conceive, that a greater quantity of vaccine virus is required for the inoculation of an adult than an infant; unless we are to be told that it is by virtue of the number of the punctures, as well as by the quantity of the vaccine virus employed, that genuine cow-pox pustules are produced." p. 312.

This extract, we believe, expresses the general opinion of practitioners in this part of the country on this point. Their attention in conducting the process of vaccination has been directed to the regular progress of the disease, and formation of the areola round the vesicle or vesicles excited. When the vesicle has been too early opened or abraded, they have often seen the areola *prevented from forming* regularly, and have, therefore, repeated the vaccination. But when the areola *has formed at the proper time*, and been of the proper size and duration, and a characteristic cicatrix been left, they have judged the disease to be genuine, whether the vesicle were opened or not.

Farther, we can conceive no use either in multiplying the numbers of vesicles or in leaving any of them unopened, except this, that the *constitutional effect* of the poison is thereby insured. Now, on this point many practitioners have thought themselves quite safe in consequence of having used Mr Bryce's test, and found it to answer. For it appears utterly inconceivable that the vesicle excited, according to his method, in the other arm, can be prevented from running its regular course, and made to imitate precisely the changes in the arm first vaccinated, unless it be by a constitutional affection resulting from the first vaccination. Yet various children who had been subjected to this test have taken the modified small-pox; for example, Dr Monro's three children, vaccinated by Mr Bryce, in whom, indeed, the vesicle first excited was opened, but in whom the areola formed quite regularly, and in whom the test answered perfectly. *

We trust we have said enough to shew that the Scottish

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* For a full account of these cases, see Dr Monro's work, p. 160.

practitioners have not lightly and hastily set aside the supposition of imperfect vaccination having been the cause of the frequent affection of vaccinated persons during the late epidemic, but that they have found it, on due and deliberate examination, neither so well founded on general reasoning, nor so far justified by experience, as to afford a satisfactory explanation of the phenomena.

Another explanation of the frequent occurrence of modified small-pox after vaccination in this and other countries has been suggested, and deserves the more consideration, as it is understood to be that which is espoused by the venerable Dr Jenner, although opposed to the opinion of Mr Moore, * namely, that the vaccine virus has degenerated in its quality in consequence of passing through a succession of individuals of the human species, without recurring to the original source of the disease in the cow or horse. We are not acquainted with any decisive facts either for or against this hypothesis, but Dr Thomson states, as reasons for entertaining great doubt of its validity, 1. That no such deterioration has ever been observed of any other contagious disease; 2. That "the vaccine virus used at the Royal Public Dispensary here, and in other parts of Scotland, for a series of eighteen years, still continues to produce in those who are inoculated with it the very same appearances which it produced on the first trials that were made with it, and the same which have been delineated and described by Dr Jenner as characteristic of cow-pock;" and, 3dly, That recent equine matter, sent down to him by Dr Jenner, produces exactly the same appearances. p. 311.

The occurrence of modified small-pox, in some vaccinated individuals, in whom the vaccine vesicle has followed its regular course, and the exemption of others similarly vaccinated, we conceive therefore, on the whole, to be referable only to peculiarity of individual constitutions. And this explanation we apprehend to be confirmed by the fact, that several children of the same family, even although vaccinated by different persons, have often been observed to take the modified small-pox, while other whole families, equally exposed, have escaped. Various examples of this occur in the works of Drs Thomson and Monro, and in the other papers to which we have referred.

Still, however, there is a difficulty in understanding how it has happened that so many examples of this constitutional peculiarity have occurred within a short period, and within narrow

* History and Practice of Vaccination, p. 284.

limits, as for example in the village of New Lanark, where 251 vaccinated children were affected, while in other places, for example in London, where it appears from the report of the Vaccine Establishment that 1472 persons died of the small-pox in 1817-18, the modified small-pox is comparatively rare.

The only explanation which we can give of this is, that the *constitution of epidemics*, as well as of individuals, is various, and that the contagion of the epidemic which has lately prevailed in Scotland has probably been unusually virulent. This opinion is distinctly expressed in the volume before us, both by Dr Thomson and Mr Bryce.

"It is well known," says Dr Thomson, "that the mortality of variolous epidemics has, in particular years, not amounted to 1 in 50; whereas, the mortality of the present epidemic has, according to my observation, been not less than 1 in 4 of the unprotected, who have been attacked by it. When a variolous epidemic shall again occur of a milder kind, it appears to me probable, that not only the number of those who may be attacked with secondary small-pox, and with small-pox after vaccination, will be greatly diminished, but also, that the disease in these two classes of persons will probably bear a stronger resemblance to the descriptions that have been usually given of chicken-pox." p. 203.

"Of late," says Mr Bryce, "while the small-pox raged in this neighbourhood, and in several other parts of Scotland, under a more severe form than had been known in this country for perhaps upwards of 40 years; the eruptive disease with which those who had been vaccinated, as well as those who had formerly undergone an attack of small-pox, have been frequently affected, has also been observed to be considerably more severe; the eruption has been more numerous, and it has approached nearer in its progress to cases of mild and distinct small-pox."—"I am well convinced, that this nearer approach to regular small-pox than what I had formerly observed, is entirely to be attributed to a greater than usual malignancy in the nature of the lately prevailing epidemic." p. 63.

The general fact of the contagion of all contagious diseases being more virulent during certain epidemics than at other times, will not be disputed, we believe, by any one who is either superficially read in their history, or familiarly acquainted with their phenomena. "The distemper," says Dr Russell, speaking of the plague, "seems to be extinguished by some cause or causes totally unknown as those which concurred to render it more pestilential and epidemical in its advance and at its height. In Europe, something may be ascribed to the cleansing of houses and streets, &c. but at Aleppo, where the distemper is allowed to take its natural course, and few or no means of purification are employed, it pursues nearly the same progress in different

years; it declines and revives at certain seasons, and, at length, without the intervention of human aid, ceases entirely." *

That the contagious property of the late malignant epidemic was unusually violent, may, we conceive, be concluded with tolerable confidence from two circumstances; 1st, That an unusual number of persons, who had before had small-pox, were affected by it; and, 2dly, That it appeared clearly that several of the vaccinated persons who took modified small-pox in this epidemic, had previously been exposed to the contagion of small-pox, and resisted it. Thus Dr Hennen says, in describing the modified small-pox in his own son, "he has been often, since he was vaccinated, exposed to variolous contagion in Spain, France, and Portugal, and particularly last year at Portsmouth."

Our belief therefore is, that in many persons, and particularly during the prevalence of epidemics of unusual malignity, *more is not to be expected from vaccination*, than a *modifying* influence over the contagion of small-pox; and it is truly gratifying to find, how very generally this modifying influence has been found to operate. The testimony of Dr Thomson on this subject, after full consideration of what he had himself seen, and been informed of by his numerous correspondents, is most important. "I have the pleasure to know, that in every instance in which, during the present epidemic, there has been even a single mark of vaccination having taken place, the modifying power of cow-pock has been most satisfactorily demonstrated." p. 314.

Six cases have, indeed, been put on record, during the epidemic of the last three years, of death from what was conceived to be small-pox after vaccination. Of two of these we are only informed, by Mr Black of Newton Stewart, that in one the cicatrix "was large, and failed in complete specific physiognomy as to regularity and indentations;" in the other, the cicatrix was more genuine, yet "not satisfactory to the medical attendant when examined during the illness." The symptoms of these cases are not stated. Of two others mentioned by Dr Henderson of Perth, and Mr Syme of Blairgowrie, we have no account whatever, excepting that the latter (who was moribund before Mr Syme saw him) "had the cicatrix distinctly." Of the fifth case, we have a distinct account by Dr Dewar, and it was manifestly an anomalous and complicated case, the patient having been previously ill, and having

* Russell on the Plague, p. 109.

died as early as the seventh day, with very unusual symptoms. The sixth is the case of Mary Taylor, to be found at p. 171 of the volume before us, which was allowed by all who saw it to be anomalous, (the eruption having been nowhere confluent,) and which was considered by several practitioners who saw both it and the others in the neighbourhood, as not small pox, but unusually aggravated chicken-pox. It is obvious, that the most trifling complaints may be dangerous or fatal, when their progress is attended with similar anomalies, and therefore, if other cases of fatal small pox after vaccination shall be found on examination equally anomalous with these two, we may fairly assert of the cow-pox, that where it does not prevent small-pox it disarms it of its terrors.

But a question occurs here, which has been repeatedly agitated, and to which we regret to find, that this volume does not contain as explicit an answer as could have been wished, whether the modified small-pox is, as some have asserted, a more severe disease at a considerable distance of time after vaccination than soon after it. Dr Thomson says, indeed, in general, "Nothing has occurred, so far as I have been able to perceive or learn, to warrant the supposition, that the modifying or preventive powers of vaccination are weakened or exhausted by time; on the contrary, the present epidemic has been observed to attack those chiefly who were under ten years of age; increasing years appearing, in general, to lessen the susceptibility of small-pox contagion." p. 34. And Mr W. Gibson of New Lanark has given, at page 253, a table, marking the intervals of time which had elapsed between vaccination and the occurrence of modified small-pox, in the 251 cases attended by him, which is very satisfactory on this point, the greatest number having occurred after an interval of one year from the date of vaccination. But the more important question is not answered, whether the disease has been more severe, has approached more in its characters to genuine small-pox, in those vaccinated long before it than in those recently vaccinated; and, as several observers of the late epidemic have given an opinion, in general terms, on the affirmative side of this question, * we cannot but regret that the attention of Dr Thomson's and Dr Monro's numerous correspondents was not particularly drawn to this part of the subject.

On the whole, the general effect which the occurrence of this epidemic has had on the minds of the practitioners, who have

* For example, Dr Adam of Forfar, (App. p. 44,) and Mr Oswald of Douglas in the Isle of Mann, (p. 282.)

witnessed it has been, *to limit our confidence in the preventive power* of cow-pox over small-pox, but, at the same time, to *extend and confirm our knowledge of its modifying power*; and, it is particularly pleasing to find, that the same conviction has extended to the public at large, and that an epidemic which threatened, at its commencement, to injure most essentially the practice of vaccination, has ended by promoting and establishing it. "The comparison of small-pox in their modified and unmodified forms," says Dr Thomson, "has often forced a conviction of the advantages of cow-pock inoculation on the minds even of the most ignorant and prejudiced, and induced them to seek protection for themselves and their offspring in a practice which they had formerly neglected or despised;" p. 43; and it is stated distinctly, both by Dr Mudie of St Andrew's and Mr Gibson of New Lanark, that "the occurrence of modified small-pox after vaccination has had the very best effect in completely establishing the credit of vaccination." pp. 244, 253.

Our limits oblige us to content ourselves with referring to the work before us, (p. 30,) to Dr Monro's book, (p. 77,) and to Dr Hennen's paper in this work, (Vol. XIV. p. 409,) for the instances which this epidemic has afforded of small-pox occurring for the second time, either in a regular * or in a modified form. We must observe, however, that this last occurrence does not appear to us to have been so common as to entitle us to suppose, as some have done, that in regard to preventive and modifying power over future attacks of small-pox, cow-pox and small-pox itself are on the same footing. Dr Thomson, as already observed, could only hear of 71 cases of small-pox after small-pox; and, in the opinion of several practitioners, a part of these were the effect of a separate contagion, that of chicken-pox. On the other hand, in several of the cases where small-pox occurred for the second time, it ran its regular course, and in three instances it was fatal. It would appear, therefore, from the facts hitherto recorded, that the *preventive* power of the small-pox is greater than that of cow-pox; but, on the other hand, that the *modifying* power of the cow-pox is superior to that of small pox.

Another conclusion, which we stated in the beginning of this paper, as fairly deducible from the observations made on the late epidemic, demands more minute attention here, because it is intimately connected with the peculiar opinion which the volume before us is chiefly intended to support. We have said, that

* The Reports of the National Vaccine Establishment for 1818-19 state, that in these two years 27 cases of regular secondary small-pox had been reported to them.

it now appears distinctly, that the diagnosis of chicken-pox and small-pox, to which many practitioners have trusted, founded on the short duration and *vesicular character* of the eruption in the former case, is, in many cases, not applicable. On this point we believe all the practitioners who have seen much of the modified small-pox in the late epidemic are now agreed. Dr Thomson has been so strongly impressed with this observation, that he has been induced to question the separate existence of chicken-pox, being persuaded, that all the appearances described under that name may be produced by the contagion of small-pox. Mr Bryce and Dr Abercrombie, though they still believe in the existence of two separate contagions, bear testimony to the correctness of this observation, that the eruption of the modified small-pox often answers to the description of chicken-pox, in being short in its duration, and *vesicular in its character*;—contending at the same time, however, that there are certain *distinctive marks* by which the vesicles of modified small-pox may be known from those of chicken pox. As this acknowledgment of these gentlemen does not appear to have been duly weighed by Dr Thomson, we shall quote their words:—"Of late," says Mr Bryce, "the eruption (of modified small-pox) has been more numerous, and it has approached nearer in its progress to cases of mild and distinct small-pox, having been, in many cases, papular, *vesicular*, and frequently pustular, in succession."* The addition of the adverb "frequently" is enough to shew, that, in Mr Bryce's observation, the modified small-pox has occasionally been papular and vesicular, without becoming afterwards pustular. Dr Abercrombie states more explicitly in regard to the modified small-pox:—"The eruption appears in the form of small inflamed papulæ, which, in the course of three days, begin to assume a *vesicular appearance*. They increase to the fourth or fifth day, and then die away into clear horny crusts, &c. *A few* of them sometimes stand out for a longer period, and advance to a partial or complete suppuration."† Neither of these gentlemen mention, what we are nevertheless satisfied, from our own observations, is the fact, that the contagion of true small-pox occasionally produces, in the *unvaccinated*, particularly in very young children, an eruption which is merely papular and vesicular, forming into crusts within four or five days, and never becoming pustular. Dr Alison, one of the physicians of the New Town Dispensary, in his letter to Mr Bryce, (p. 73,) bears testimony

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* Thomson, p. 63. † Ib. p. 58.

to the correctness of Dr Thomson's observation on this point. And the same thing has been observed by former authors.* The importance of these quotations, in regard to the question at issue between these gentlemen and Dr Thomson, will appear immediately. At present we shall only add to them the observation of Dr Thomson himself, which we believe to be also perfectly correct, that "the mildest form in which the small-pox has occurred, as well as the most malignant, have been both strictly vesicular eruptions, in which scarcely a particle of purulent matter was to be observed, from their commencement to their termination." p. 29.

These observations suggest an important criticism on the mode of classifiying eruptive diseases by the appearance on the skin *alone*, without reference to the constitutional symptom, which is at present much in vogue. In the classifications of Dr Willan, and of Dr Mason Good, varicella is completely separated from variola, and arranged along with miliary eruptions, aphthæ, &c. because the eruption in it is vesicular. Now, if Dr Thomson's hypothesis of the identity of small-pox and chicken-pox be true, we have thus two varieties of disease, separated into distinct genera, or even into distinct orders, which have these points of natural alliance between them, that they proceed from the same contagion, and that each of them is capable of engendering the other. Nor will this mode of classifying these diseases fare better, if the opinion maintained in the volume before us by Mr Bryce and Dr Abercrombie, of the separate existence of chicken-pox and small-pox, shall be found to be correct. For it appears, from their description of the cases, to which they give the name of chicken-pox, which we shall presently quote, that these cases, in their progress, pretty frequently become pustular; and it appears from their account of modified small-pox already quoted, that that disease, throughout its progress, often continues vesicular. On this supposition, therefore, the error which we have just pointed out, instead of being done away, is precisely doubled.

We cannot help thinking, that any nosological arrangement of febrile eruptive diseases, which is founded solely on the appearances observed on the skin,—which separates small-pox from chicken-pox, and both of these from measles and scarlet-fever,—and which classes these last along with the nettlerash, a disease differing from them in these essential particulars, that it is not contagious, that it has not a determinate course, and that the susceptibility of it is not in the least diminished by its having once occurred,—cannot be justified without losing sight of the

* See Moore's History and Practice of Vaccination, p. 106.

useful practical purposes which render it important that diseases should be classified at all, or studied in connection.

We come now to the question which the work before us is chiefly intended to decide, Whether small-pox and chicken-pox are or are not separate diseases? We must observe, however, in the outset, that Dr Thomson does not undertake to do more in the present volume than answer this question,

"Whether more than one contagion can be supposed to have operated in the production of *the present* varioloid epidemic, either in Edinburgh or in the other places in which I have had an opportunity of observing the disease. The point more immediately at issue is not, I conceive, whether there exist a disease such as Dr Heberden describes, specifically distinct from small-pox; but merely whether any contagion beside that of small-pox can have contributed to produce any part of the epidemic of which I have attempted to give an account." p. 77.

In the observations we are now to make, we shall lay ourselves under a similar restriction. We shall, in the first instance, endeavour to expose what we conceive to be a fallacy in the statements and reasonings by which Dr Thomson has attempted to prove that one contagion only can lately have existed in Edinburgh. Afterwards we shall state what appear to us strong presumptions in favour of the opposite opinion.

His reason for answering the question above stated in the negative is quite simple. He has been at great pains to prove, that in every situation in which the "varioloid epidemic" has prevailed, some cases have occurred answering to the description of small pox, and others answering to that of chicken-pox; the former being chiefly, though not solely, in the unvaccinated; the latter chiefly, though not solely, in the vaccinated. Hence, he argues, those who contend that the two diseases are different, must suppose the two contagions to have coexisted wherever either of them has been found. This of itself is sufficiently improbable, but it becomes absolutely incredible when we find farther, 1st, That the vesicular disease, or chicken-pox, has everywhere appeared to give rise to the pustular disease, or small-pox, and *vice versa*; and, 2dly, That those who have suffered the one have been thereby almost uniformly protected from the other. Having established these points, he concludes, "I am at a loss to conceive what other sort of evidence, besides that which I have already adduced, can be required to establish the probability of these two forms of the disease having had a common origin." p. 233.

This argument appears, at first sight, so strong, that the reader must be surprised to find Mr Bryce stating in opposition

to it, that " his observations are sufficient, in his opinion, to warrant him in concluding that the chicken-pox is in its nature quite distinct from the small-pox," p. 75; and Dr Abercrombie giving his decided opinion that various circumstances which he has stated " appear to him to afford all the evidence in support of the doctrine of the essential difference of the two affections that we can reasonably look for in a case of this kind." p. 189.

We apprehend that any skilful logician, on being informed of so striking a difference of opinion in regard to the conclusions to be drawn from known facts, pronounced by judges whose competency to decide on the import of these facts will not be disputed, would be apt to suspect an ambiguity in the use of terms; and that this has really occurred in the present instance, and has deceived our author very materially in regard to the strength of his conclusions, may be shewn, we think, in a few words.

Dr Thomson has assumed throughout his whole argument, that if there be an essential distinction between chicken-pox and small-pox, the former term will necessary include, and that in point of fact, in the apprehension of Mr Bryce and Dr Abercrombie it does include, all those cases of eruptive disease which are short in their duration, and vesicular in their character during the whole or the greater part of their progress. That we may not be accused of misrepresenting him on this point, we must make two quotations from his book.

" That an eruptive disease, resembling in its symptoms the descriptions usually given of chicken-pox, has formed a large portion of the present varioloid epidemic among the vaccinated, is a fact which does not admit of doubt; and that this supposed chicken-pox has in every situation accompanied small-pox wherever they have made their appearance, is equally indubitable. Mr Bryce states that he had seen this disease in two unvaccinated and in twenty vaccinated persons during the last ten months. I had seen this form of the disease in eighteen unvaccinated persons before I drew up my account of the epidemic, and I have seen it in three others since that time. I have kept no account of the number of the vaccinated affected with the disease in the *vesicular* or in the *vesiculo-pustular* forms, because these seemed to me to be the most common forms in which modified small-pox occur. But taking the ratio given by Mr Bryce as the ground of my calculation, 2 being to 20 as 21 to 210, I must have seen this last number of cases of the varioloid disease in the vesicular form in the vaccinated; and I know that a great number of these cases have been declared to be chicken-pox by those who have seen them. From this calculation also, it is obvious, that of the 310 cases which I have conceived to be, and described as cases of modified small-pox, not more than 100 can have been truly such." p. 115.

We quote this passage merely in order to shew (what every one who reads it attentively will perceive) that Dr Thomson conceives that all the cases of eruption in vaccinated persons, which have occurred in the vesicular and vesiculo-pustular forms, would be considered by Mr Bryce as chicken-pox.

Again,

"The conclusion which seems to me to follow necessarily from the results of my observation, can be evaded, I conceive, only in one of two ways; either, 1st, By supposing, that in observing and recording the cases of the varioloid epidemic which I have detailed, I have uniformly confounded the strictly vesicular form of the eruption with the pustular; or, *in other words*, the form of the eruption which Mr Bryce denominates chicken-pox, with that which Dr Abercrombie has denominated horn-pox," &c. p. 233.

We quote this passage merely to shew that Dr Thomson conceives that Mr Bryce's term chicken-pox corresponds to his own term, "vesicular form of the disease;" and Dr Abercrombie's term horn-pox (which is synonymous with modified small-pox) to his own term, "pustular form of the disease."

Now the passages which we have already quoted from Mr Bryce's and Dr Abercrombie's account of modified small-pox (p. 243) shew quite distinctly that what they call modified small-pox is generally, during the greater part of its progress, a vesicular or vesiculo-pustular disease; and we are quite sure that there is nothing in the history which Dr Thomson has given of the vesicular and vesiculo-pustular small-pox (p. 21 & 22) which Mr Bryce and Dr Abercrombie would not admit to be applicable to many cases of what they call, not chicken-pox, but modified small-pox. It is *not by the disease being vesicular* in its early stage, but by the *vesicular disease during the first few days shewing certain determinate characters*, that they have attempted to distinguish and characterize the chicken pox.

As the distinction, which these gentlemen conceive that they have observed between chicken-pox and modified small-pox, does not turn upon the circumstance of the one being a vesicular and the other a pustular disease, they need not suspect Dr Thomson of having "uniformly confounded the strictly vesicular form of the eruption with the pustular," but they may, nevertheless, suspect him of having confounded "the form of the eruption which Mr Bryce denominates chicken-pox with that which Dr Abercrombie has denominated horn-pox." And, indeed, according to their view of the matter, it was not only easy for him to confound, but it was impossible for him to distinguish, in the way in which he proceeded, these two, as they apprehend, different diseases, because the marks of distinction

which they conceive themselves to have observed, are different from those by which he has been guided.

To illustrate this by an individual case, Dr Thomson gives, at p. 181, the following account of the case of Anne Cairns, æt. 6 m. unvaccinated.

"After a very slight previous indisposition, a purely vesicular eruption was discovered on different parts of her body on Monday, 21st of June. This eruption continued vesicular throughout the course of the disease. By the 4th day several of the vesicles had fallen, and were almost completely faded; and by the 5th day the whole of the eruption had entirely disappeared, leaving only superficial cutaneous discolorations, except five or six vesicles on the right hand and arm that formed into extremely small horny scabs, which in the course of three days fell off, exposing very slight tubercular elevations of the cutis."

Now, with the particulars of this case after the third day we happen to be acquainted, and we are happy to bear witness to the general correctness of this statement. It was one of the cases, of which there have been several in the course of the epidemic, where the contagion of true small-pox (to which this child had been fully exposed) produced, in a young unprotected infant, merely a vesicular eruption, which dried up within five days; and it happened in this case that the inflammation subsided so quickly that, after the formation of the scabs, there was very little of the horny or tubercular appearance which generally characterizes truly variolous eruptions, excepting only on the right hand and arm where there were, as have been stated, some extremely small horny scabs, which left very slight tubercular elevations. Dr Thomson mentions this, therefore, as "a fair example of what he has described under the name of mild vesicular small pox;" and asks, if "there is to be found in the records of the disease an example of a case answering in every respect more exactly to the definitions that have been given, and to the notions that have been generally entertained of chicken pox?"

We know, however, that although the eruption in this case was vesicular, and was dried in five days; and although *after the period of its drying* there were no marks by which it could be distinguished from chicken-pox, yet the *appearance of the vesicles before their drying*, which is not described in the account given of the case in this work, was such as, in the opinion of several gentlemen who saw it, *clearly distinguished it* from those cases of vesicular disease to which Mr Bryce gives the name of chicken-pox; and it is in fact alluded to by Dr Alison in his letter to Mr Bryce as having been, in his apprehension, before

the time of the formation of the crusts, exactly similar, not to chicken-pox, but to modified small-pox or * horn-pox.

This was an unusual case, as it occurred in an unvaccinated child, but we know that many cases, equally vesicular in their character, and equally short in their progress, occurred in vaccinated persons, which Mr Bryce and Dr Abercrombie had no difficulty in referring to the contagion of small-pox, but which they at the same time thought they could distinguish, by the appearance of the eruption in its early stage, from the cases which they called chicken pox. We are quite certain, therefore, that under the head of vesicular and vesiculo-pustular small-pox, Dr Thomson, instead of including, as he supposed, those cases only which his opponents would have called chicken-pox, has included a large number of cases, which they would have called mild or modified small-pox, along with a small number which they would have called chicken-pox; and, therefore, although he has proved very satisfactorily, that in every instance in which small-pox has occurred in Edinburgh, *pustular and vesicular eruptions have occurred together*, and in connection, yet he has *not* proved, that in all these instances *small-pox, and the peculiar eruption which his opponents call chicken-pox, have occurred together*. And of course, as his whole argument is founded on that coexistence, it must fall to the ground, unless this point be established.

It appears even, from the volume before us, that Dr Thomson has not only conceived that Mr Bryce and Dr Abercrombie must give the name of chicken-pox to many cases which they have thought manifestly distinct from chicken-pox, but he has also conceived that they must give the name of small-

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* In the Report of the New Town Dispensary for April 1819, quoted by Dr Thomson, (p. 122,) Dr Alison observes, that "in a few constitutions, altogether unprotected, the contagion of small-pox had produced symptoms answering to the descriptions of chicken-pox," because, as he afterwards states, "the eruption was formed into thin flat scabs, and the inflammation about these was nearly gone about the fifth day. The eruptive fever was trifling." These appearances, in a constitution altogether unprotected, were thought sufficient to characterize chicken-pox; but Dr Alison states afterwards in his letter to Mr Bryce, that, having had an opportunity of seeing a case of this kind (the case of Cairns) before the formation of the crusts, he found the appearances to be those of modified small-pox, not of chicken-pox, as defined by Mr Bryce and Dr Abercrombie.

The only part of the history of the above case, as given in Dr Thomson's work, which we should suspect not to be perfectly accurate, is the statement of the eruption having been *purely vesicular* from the first. From our observation of the appearance of the eruption in this case, we should be inclined to suspect that it must have been papular for some little time (perhaps 24 hours) before it became vesicular.

pox to various cases which they have regarded as chicken-pox. We allude particularly to the cases which occurred in Jamaica Street, and of which an account is given at p. 164 *et seq.* Several of these cases were severe, and one fatal, but they were not more severe in the unvaccinated than in the vaccinated;—the only fatal case was in a vaccinated child, and attended with various anomalies, and we know, that in the appearance of the eruption in all these cases, before the formation of the crusts, Mr Bryce and Dr Abercrombie recognized the marks by which they conceive that chicken-pox may be characterized and distinguished from small-pox, and which we shall now quote.

"This eruptive disease," says Mr Bryce, speaking of the vesicular disease, to which he conceives the name of chicken-pox ought to be restricted, "as I have observed it, generally attacks with little or no fever, the *appearance of vesicles* on the shoulders, neck, and breast, being often *the first symptoms observed.* The vesicles are often, when first seen, *about the size of a split pea,* perfectly transparent, and covered only by *the cuticle, as thin as that separated by a scald* or a blister; they generally have at first an inflamed areola, but this seems also to be confined to the cuticle, and there seems to be *little if any hardness* in the true skin beneath or around them. *On puncturing the vesicle, the clear lymph is wholly evacuated, the cuticle falls down, and very little if any hardness is perceived on passing the finger over the collapsed vesicle,*" &c. "The vesicles generally increase in number for several days, and while new vesicles are appearing on some parts of the body, those which had first come out are beginning to shrivel, and the fluid contained in them has become somewhat milky. *Many of them are broken by the second or third day,* and have a small crust formed in the centre, which adheres to the skin beneath, and is surrounded by an opaque or milky fluid, confined by the shrivelled cuticle. When the eruption is numerous, the body has the appearance of having been exposed to a shower of boiling water, each drop of which had occasioned a vesicle or blister: and these are generally on the second or third day, when turgid, broader at the summit than at the base. When the vesicles remain unbroken for four or five days, as is sometimes the case, the covering of cuticle, as well as the contained fluid, become opaque, *and the latter purulent.* The vesicle is then much flattened, and *in this stage of the disease is hardly to be distinguished from small-pox,* unless by the very thin, delicate, and shrivelled appearance of the covering cuticle." p. 64.

Dr Abercrombie's account of the disease, to which he thinks the name of chicken-pox should be restricted, is this: "This eruption is preceded for a day or two by fever, generally slight.

When a single specimen of the eruption is minutely examined, it is found to be *from the earliest period a watery vesicle*, covered by a *thin pellicle of skin*, which usually has a loose shrivelled appearance. The vesicles increase in size for three or four days, and *then generally burst*, the fluid drying into loose scaly crusts, of a light yellowish colour. In some constitutions, and on some parts of the body, where the cuticle is unusually strong, the vesicles may continue unbroken for a longer period, perhaps to the sixth or seventh day, and in these cases they assume a *yellow puriform appearance*, considerably resembling the pustules of small-pox. *If one of the vesicles of this eruption be punctured on the second or third day*, so as carefully to discharge all the fluid, *the pellicle which covered it falls down, and the finger being then carried over it, it is found to be correctly on a level with the surrounding integuments.*" p. 184.

Dr Abercrombie adds as a contrast, "If one of the vesicles of the horn-pox (or modified small-pox) be opened on the third day, so as carefully to discharge all the fluid which it contains, and the finger then be carried over it, there is found remaining a *firm tubercular base, considerably elevated above the surrounding integuments.*"

Dr Thomson objects to the distinction of modified small-pox by the tubercles which are seen below the vesicles, that tubercles are described both by Van Swieten and by Dr Heim of Berlin, as occurring in *regular* small pox. * Of this fact, we hardly require the authority of these learned authors to inform us, the slightest observation being sufficient to shew, that tubercles exist below the pustules (or rather vesicles) in the early stage of regular small-pox, most of which are generally dissolved away as the pustules pass into complete suppuration, but a few (particularly on the legs and arms) often stand out to the end of the disease, and even longer. But it must be remembered, that Dr Abercrombie does not state the existence of tubercles in the early stage of the disease, as a mark of distinction between modified and regular small-pox, but as a mark of distinction between small-pox, *in any form*, and chicken-pox, and therefore, the existence of tubercles in the early stage of both varieties of small-pox is rather favourable than adverse to the justness and importance of the distinction he points out.

Dr Thomson seems to think that the descriptions of chicken-pox now quoted do not agree with one another, but we apprehend that the marks which we have printed in italics in the letters of Mr Bryce and Dr Abercrombie, are sufficient to enable practitioners to recognize in its early stage the *peculiar*

* See pp. 197 and 199.

vesicular eruption which is here described, and distinguish it from the ordinary, if not from the only appearance, of modified small-pox. The most material of these marks are the following. 1st, The eruptive fever is *generally* shorter than that which precedes small-pox, that is, although a few cases of this eruption may occur in which the eruptive fever lasts three days, yet on comparing any given number of cases of this eruption, with an equal number of cases of the common form of modified small-pox, a great majority of the former will have a considerably shorter eruptive fever. 2d, The eruption becomes more quickly vesicular; indeed, it is described as appearing vesicular from the first, when minutely examined, and the vesicles attain a large size in a much shorter period. "They are often," says Mr Bryce, "as large as a split pea when first seen." Dr Abercrombie says, by way of contrast, that the modified small-pox or horn-pox becomes vesicular "in the course of three days." This, however, is not strictly applicable to all cases, for there are instances of unequivocal modified small-pox becoming vesicular, at least in part, as early as the first day. Thus, in Dr Hennen's child, the appearances in whom were very carefully watched, "some of the papulæ became distinctly vesicular within twelve hours of their appearance;" but still, in all the cases we have seen in this early stage, sufficient marks of distinction have existed; the vesicles being much less prominent, and much smaller, both absolutely, and relatively to the inflamed bases on which they stood, than in the chicken-pox; and, it appears from Dr Hennen's farther statement, that a part of the eruption in his son never became vesicular at all, for when "the pustules began to dry up, the papular eruption began to scale off," an appearance often observed in modified small-pox, but not mentioned at all in any descriptions of chicken-pox. In general, we believe that the eruption of modified small-pox, at least when distinct, is *papular*, shewing little or no fluid, for two days after it appears, while, in the eruption here called chicken-pox, the *vesicles appear from the first* and constitute by far the larger portion of the elevations of the cuticle on the second day. 3d, After the vesicles have appeared in the modified small-pox, they are in the first instance "elevated on solid tubercular bases," whereas in chicken-pox the inflammation at the base of the vesicles is hardly accompanied with any swelling. Hence the remarkable difference observed when the vesicles are opened and the fluid evacuated as early as the second or third day. 4th, The cuticle covering and containing the fluid is much thinner in the vesicles of the chicken pox than in those of the modified small pox, and hence the vesicles are more

transparent at first, and are afterwards more generally broken.

In order to facilitate this diagnosis, we would particularly refer our readers to Dr Monro's second plate, Fig. 5 and 6, where there is a very good representation of the appearance of the eruption of chicken-pox on the second or third day. The vesicles here are full and turgid, but in many cases they are, as Dr Abercrombie states, rather loose and shrivelled in their appearance, though without the depression on the centres, which has been considered by many as one of the best marks of true small-pox. We suppose the true difference is, that the inflammation here is nearly confined, in the first instance, to the very surface of the true skin, instead of pervading its substance, as in the small-pox, and increasing its thickness.

We have no hesitation in saying, from what we have seen of these diseases, that certain cases may be distinguished by practitioners who choose to attend to these marks, and confidently referred to the head of chicken-pox, as described by Mr Bryce and Dr Abercrombie. But, in order that this may be done, two cautions must be here given. 1st, It is quite essential that the eruptions be seen as early as the second or third day, before any part of them begin to form crusts. After this period, in a few of the cases, which answer to the description of modified small-pox or horn-pox, the inflammation subsides so rapidly, that nothing like tubercles or horny scabs remains; and on the other hand, in some of the cases which answer to the above description of chicken-pox, the inflammation increases after the third day, and more or less of the eruption becomes pustular and tubercular. 2dly, In judging of the nature of any individual case, we must be guided by the appearance of the majority of the eruption. There will often be found a few vesicles, differing in appearance from what may safely be pronounced, after an inspection of the whole body, *the general character of the eruption*, just as in the best marked small-pox we have often observed a few small vesicles, filled up long before the maturation of the eruption at large, without for a moment imagining, that the appearance of these vesicles was to change our notion of the nature of the disease.

We must here say a few words in regard to a remark which we have often heard made, upon the attempt to distinguish chicken-pox from modified small-pox, that the particulars selected for this purpose are not the characteristics of chicken-pox, as delivered by the older authors, and therefore, that the chicken-pox of Mr Bryce, if it be really a distinct disease, is a new disease. On this point we would observe, *first*, that the

characters assigned to chicken-pox by Mr Bryce, so far as we have hitherto considered them, if they do not exactly correspond to, are at least *perfectly consistent with* the best descriptions formerly given of chicken-pox, and that, without supposing him to have described a new disease, we may very well suppose him to have given a more accurate description than had been formerly given of an old disease.* And *secondly*, That, supposing the chicken-pox to be a distinct disease, there is a special and obvious reason for the characters on which he now insists not having been particularly noticed by the older authors, namely, that the chicken-pox was only an object of importance to these authors on account of its similarity to the small-pox, and therefore, that their attention in observing and describing it was chiefly and very properly directed to the marks by which it might be distinguished from small-pox. Now, the simple and obvious way of making this distinction was, by the *vesicular character*, and *short duration* of the eruption. In the days when modified small-pox was unknown, this was all that it was important for any practitioner to know of chicken-pox. But it must be remembered, that small-pox itself is first a papular and then a vesicular, before it becomes a pustular disease, (the fluid of the eruption, for two or three days being, as Cullen says, "almost colourless, or whey-coloured,") and that the effect of the modification of small-pox which is produced by cow-pox is to arrest the progress of the disease, most generally at this very period, and prevent its ever advancing from the vesicular to the completely pustular form. Hence it is quite clear that, although the two diseases be different, these two leading marks, by which the practitioner was wont to distinguish chicken-pox from regular small-pox, *must* fail him when he attempts to distinguish chicken-pox from modified small-pox; and therefore, without supposing the original distinction erroneous, it is obvious that new marks of distinction must be sought for, applicable to the new form in which small-pox has presented itself.

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* The account given of the early stage of chicken-pox in Moore's History and Practice of Vaccination, p. 103, and in Heberden's Commentaries, p. 389, agree exceedingly well with the descriptions of Mr Bryce and Dr Abercrombie. Of the three marks of distinction on which Heberden rests his diagnosis in the following passage, the last, from the circumstance we have noticed in the text, is now inapplicable, but the two first correspond very nearly with the observations of these two gentlemen. "Veræ variolæ a variolis pusillis discerni possunt tribus potissimum conditionibus. Nam primo veræ nunquam ante quartum diem exeunt; deinde, in earum apicibus nullus est humor secundo tertiove die; nec denique crustæ sunt quinto."

But, although we have no doubt, that careful observers may distinguish eruptions to which the descriptions above given of chicken-pox apply, yet we cannot undertake to speak with equal confidence as to the question, whether these eruptions will be found to answer, in all particulars, to the notions Mr Bryce and Dr Abercrombie entertain of chicken-pox. By future observation, however, this question may be resolved, we should conceive, without much difficulty. If these gentlemen are right, eruptions answering to the description just given, will be farther distinguished by the following marks.

1. They will always give rise to eruptions similar to themselves, *i. e.* the eruptions which spring from their contagion will always be distinguished, in their early stages, by the same characters.

2. They will affect indiscriminately those who have had cow-pox, those who have had small-pox, and those who have had neither, and will not be more severe in the latter than in the two former. This was unquestionably the case in the little epidemic in Jamaica Street referred to by Dr Thomson, (p. 164,) in which the only patient that died had been vaccinated, and its case was confessedly anomalous in various respects; and an unvaccinated child had the disease extremely mildly.

3. They will furnish no protection against the future contagion of small-pox.

4. They will hardly ever be confluent or dangerous to life.

It appears to us that, by observation of these circumstances, we may soon hope to arrive at a positive conclusion on this subject. For if we find an eruption distinguished in its early stage by Mr Bryce's marks of chicken-pox, manifestly giving rise, even in a single case, to unequivocal small-pox in an unprotected child, or to an eruption, distinguished in its early stage by Dr Abercrombie's marks of horn-pox in a vaccinated child, we should consider that case as nearly decisive in Dr Thomson's favour; and, on his principles, we should expect such a case to occur frequently. And, on the other hand, if several examples shall occur, in each of which an eruption, pronounced, in consequence of its appearance in its early stage, to be chicken-pox, shall manifestly give rise to several other eruptions, all of them preserving in their early stage the same characters; if these eruptions shall appear to affect equally persons who have gone through cow-pox, or small pox, or neither; and, more particularly, if these eruptions shall, in every instance, be equally mild, and their progress equally short, in the wholly unprotected as in the two other classes of persons, we should consider even a

few such examples as furnishing very strong evidence against him.

Now, we are assured that this last supposition has already been realized in Edinburgh; Mr Bryce and Dr Abercrombie having in all, since these inquiries were commenced, either seen themselves, or received from practitioners on whose observation of the marks of distinction above noticed they can rely, accounts of *nine* different families, where an eruptive disease appeared, the first case of which was pronounced from its appearance in its early stage to be chicken-pox. In each of these families several other cases followed, all of which presented the same characters in their early stages. In several of the families persons who had gone through small-pox, as well as persons who had gone through cow-pox, were affected; and in each of the families the eruption appeared in one unprotected child, presented the same characters, and ran the same course; its appearance being equally peculiar, and its duration equally short.

On the supposition of the contagion in these cases being that of chicken-pox, essentially different from small-pox, all this was to be expected, and all corresponded to the predictions which were hazarded on that supposition; but on the supposition that the contagion was the same as that of small-pox, let us consider how many anomalies are here involved.

It will not be denied that the characters given by Mr Bryce and Dr Abercrombie of chicken-pox in its early stage differ materially from the usual, if not from the only, appearance of unequivocal small-pox in that stage. In each of these families, however, *all* the eruptions presented these characters, so that, on this supposition, the contagion of small-pox gave rise to above forty anomalous cases, without one case answering, in its early progress, to the ordinary descriptions of small-pox.

But, if it must appear very singular that so many exceptions to the general rule should occur in succession, without a single example of the rule itself, it must appear much more singular, that the same cases should present *nine* instances of the contagion of small-pox producing, in an unprotected person, merely a mild, short, and vesicular disease, *without one* of its producing its ordinary effect. The whole series of these cases, therefore, on this supposition, appears to be a succession of anomalies; and if we suppose them to be cases of small-pox, we must suppose them to be all exceptions to the common effects of that contagion, both on protected and unprotected persons.

We think it must be admitted, that if a few more similar series of cases shall occur, they will be sufficient to constitute an

experimentum crucis in favour of the notion of a separate contagion.

We may add that the decision of this question will depend upon observations, in regard to which there can fortunately be no mistake. For although there may be misapprehension as to the particular characters of the early stage of any particular eruption, there is no room for mistake as to these two points; *first*, That a particular eruption is pronounced, by Mr Bryce or Dr Abercrombie, to be chicken-pox; and *secondly*, That the contagion of that eruption gives rise, in an unprotected child, to a disease equally mild, and equally short, as in a vaccinated child. And if these two things happen several times more, we think the evidence in favour of the opinion of these gentlemen will be satisfactory.

The circumstances already stated seem to be sufficient tests, whereby future observers may judge, whether eruptions corresponding to the descriptions we have quoted of chicken-pox, are specifically distinct from small-pox or not. Mr Bryce and Dr Abercrombie have, however, attempted to establish two other tests of the same kind. 1st, That it is extremely difficult, if not impossible, to propagate this kind of eruption by inoculation; and 2dly, That cow-pox runs its regular course after this disease, but not after small-pox. Both these tests have been applied to the cases which we have just reported on the authority of these gentlemen, and the results have been what we have just stated, and have, therefore, greatly multiplied the anomalies which these cases must present, if regarded in the light in which Dr Thomson regards them.

On the first of these points Mr Bryce states, that he had seen thirteen persons inoculated with matter taken from the vesicles of what he judged from the marks above stated to be chicken-pox, "with the greatest care at all periods of the disease, and at all seasons of the year," but in none of them was any eruptive disease introduced. Dr Alison's letter to Mr Bryce contains an account of three more inoculations from children, whose disease was conceived by Mr Bryce to be chicken-pox, of which the result was the same.

To this Dr Thomson answers, that if it be really a property of chicken-pox not to be communicable by inoculation, the disease must differ from that described by Heberden, Dimsdale, and others, under the name of chicken-pox, and which was believed by Heberden, and particularly stated by Dimsdale, to be communicable in this way. This observation, however, is not decisive, because in the time of these authors it was not known, that the contagion of true small-pox may produce a modified

disease in those who have previously had small-pox, and may sometimes produce a merely vesicular disease in those who have not; and therefore, the inoculations supposed to have been with matter of chicken-pox, and which do not seem to have been numerous, may really have been with the matter of mild or modified small-pox.

Secondly, Dr Thomson refers to experiments made by several of our contemporaries, from which it would appear, that chicken-pox has sometimes been communicated by inoculation, although the attempt has often failed. These experiments are detailed from p. 96 to 114 of the present volume. On reviewing them, it does not appear to us, that they are so conclusive in favour of Dr Thomson as he seems to think them. The cases related by M. Freteaux, (p. 97,) by M. Valentine, (p. 99,) and that related as having occurred at Paris in 1802, (p. 101,) are all decidedly favourable to the supposition, that chicken-pox *cannot* be communicated by inoculation. The case most strongly adverse to that supposition is the second case quoted from Dr Willan, (p. 98,) where successive inoculations of chicken-pox and small-pox are stated to have produced successive eruptions; yet, as only three days are stated to have elapsed between the periods of appearance of the two eruptions, this example does not seem free from fallacy. In the other cases quoted, we should apprehend the matter used for inoculation to have been taken from modified small-pox, and therefore that they prove, not that the chicken-pox of Mr Bryce and Dr Abercrombie, in certain circumstances, can be communicated by inoculation, but merely that the modified small-pox in certain circumstances cannot, and in this they all agree very well with the account of the result of inoculations with undoubted modified small-pox given by Dr Adam, and quoted here, (p. 103,) and also with previous inoculations with variolous matter stated by Dr Willan. *

In other instances, as in the instance of the children inoculated from Dr Hennen's son, inoculations with the matter of modified small-pox have been more uniformly effective; but a variety in the results given by this matter proves nothing, in regard to the effect of inoculating with the matter of the chicken-pox of Mr Bryce, unless it were previously proved that the two diseases are the same.

In support of their *second* assertion, that a child who has gone through the disease which they call chicken-pox, afterwards goes through cow-pox regularly, Mr Bryce and Dr Abercrom-

* On Vaccination, p. 32, 45.

bie mention particularly two cases, which had occurred in their own practice, and which they had very carefully watched, (p. 66.) In Dr Alison's letter to Mr Bryce, there is an account of two more, but, as in one of these the areola formed on the fourth day of the eruption of what was called chicken-pox, this case should, perhaps, be overlooked. To these, however, we can add three more; the very young child already mentioned, which was exposed to the contagion of several of the cases in Jamaica Street, (p. 164,) and took the disease in the mildest form, has been since vaccinated, and gone through the cow-pox quite regularly, according to the opinion of both Dr Thomson and Mr Bryce. Another unprotected child, a patient of Mr W. Wood's, lately recovered from a disease which he had pronounced, judging from the marks described by Mr Bryce, to be chicken-pox, and which had affected, in precisely the same manner, two persons of the family who had gone through small-pox, and three who had gone through cow-pox, has since gone through the vaccine process quite regularly; and Archibald Hastie, whose case is stated at p. 178 of Dr Thomson's work, and was regarded by Dr Alison as answering to Mr Bryce's character of chicken-pox, has also been vaccinated, and gone through the cow-pox quite regularly, in the opinion of several medical gentlemen who saw him, among whom was Dr Abercrombie. This case is particularly important, as Dr Thomson seems, from his account of it, and particularly of the pits left by it, (all of which, however, have since disappeared,) to have considered it as approaching more nearly to the small-pox than to the chicken-pox of authors. *

To the argument drawn from these facts, Dr Thomson answers, 1st, That cow-pox sometimes advances regularly after true small-pox. This, however, is allowed to be a very rare occurrence, particularly at so short a distance of time after that disease, and therefore, very unlikely to take place six or seven times in immediate succession, as was the case in the instances above quoted. 2dly, What seems to us a better argument, he answers, that although small-pox in its regular form may prevent cow-pox in future from running its natural course,

* It must be added here, that Mrs Campbell, who seemed to take the disease in July last, from Hastie, (see p. 179 of Dr Thomson's book,) has been lately vaccinated, and has not gone through the process regularly, the vesicles excited having been very small, and the areola premature and insufficient; there was reason to think, however, that the vesicles had been checked in their progress by rubbing, and, besides, the evidence of her not having gone through small-pox previously, is not satisfactory.

yet, when the contagion of small-pox produces only a short and chiefly vesicular disease, it may not afford protection against cow-pox. And in a letter addressed to Dr Thomson, by his friend Mr Turner, mention is made of two cases, in which the contagion of unequivocal small-pox had produced only a mild vesicular eruption, and in which subsequent vaccination had been pronounced quite regular. p. 300.

This point, therefore, demands farther investigation. We have lately seen the vaccination of a child in these circumstances, of which the result was the reverse of what Mr Turner had observed. The object of this experiment was precisely in the predicament of Anne Cairns, whose case is given above, having been exposed to the infection of regular small-pox, and taken only a mild papular and vesicular eruption, which formed into crusts in five days. This child has since been twice vaccinated by several punctures without any farther effect than a slight inflammation, about the 4th day, around the punctures, which quickly subsided.

Dr Thomson has shewn much ingenuity in thus controverting the conclusions drawn from the two classes of facts just considered, and has certainly, in some degree, neutralized the evidence which they afford. Yet we think they still furnish a presumption against his opinion; and if the results of future experiments shall be similar to those recorded in the letter of Mr Bryce, we think that presumption may yet become a certainty.

In conducting similar experiments in future, however, it must be remembered, that the two classes of experiment are very different. The vaccination of a child which has gone through an eruption, of which the nature is uncertain, is not only safe but always advisable, whereas the inoculation of an unprotected child, with the matter of a doubtful eruption, is an experiment which, for obvious moral considerations, ought never to be tried, unless we have the strongest evidence that the disease which we attempt to communicate in this way is equally mild in the unprotected as in the vaccinated.

We shall conclude this long article with stating what has always seemed to us a strong argument against Dr Thomson's notion of the identity of small-pox and chicken-pox. This is founded on the simple fact, that before vaccination was known, chicken pox was always represented as a disease possessing these two remarkable properties, 1st, That it affected equally those who had, and those who had not gone through small-pox; and, 2dly, That it was equally mild in both. Hence, we must suppose, on Dr Thomson's hypothesis, that the descriptions given of chicken-pox must have been taken from small-pox occurring epidemi-

cally with these two peculiarities; 1st, It must have been very mild; and, 2dly, It must have frequently attacked those who had gone through it before. Now, it appears that secondary small-pox, whether in a regular or modified form, has been rare even during this epidemic; and Dr Thomson himself expresses an opinion that, in milder epidemics, it will be much rarer. It is, therefore, inconsistent with all that we know of the disease, from observations made on it in its unequivocal form, to suppose that it can at once be uniformly mild in the unprotected, and common in those who have gone through it before.

On the whole, as it is allowed on all hands that the modified small-pox is a mild, a short, and in most cases, throughout the greater part of its progress, a truly *vesicular disease*, it is not at all surprising that the introduction of modified small-pox should have brought confusion and obscurity on the marks of distinction, formerly thought to be established between small-pox and chicken-pox; but we have as yet seen nothing, either in the epidemic we have witnessed, or in the statements contained in the present volume, to compel us to have recourse to the supposition that the distinction itself was founded on mistake.

We trust it is unnecessary for us to apologize for the freedom of these remarks on Dr Thomson's very ingenious work. If the opinion which he here maintains shall ultimately be found correct, he will readily forgive an opposition which will contribute, perhaps, to draw the attention of the profession to the question, and accelerate the investigation of the truth: and if, on the other hand, satisfactory marks of distinction between small-pox and chicken-pox shall be found to exist, we are sure that nothing will have done so much to establish their existence, and demonstrate their importance, as his candid and ingenuous avowal, that hitherto he has been unable to discover them; and the ingenious explanation he has attempted of all the phenomena in question, on the supposition that no such distinction exists.

II.

A Series of Engravings representing the Bones of the Human Skeleton, with the Skeletons of some of the Lower Animals. By Edward Mitchell, Engraver, Edinburgh. The Ex-

planatory References by JOHN BARCLAY, M. D. Lecturer on Anatomy, Fellow of the Royal College of Physicians, and of the Royal Society of Edinburgh, &c. &c. Part I. & II. Edinburgh, 1820.

Cephalogenesis sive Capitis Ossei Structura, Formatio et Significatio per omnes Animalium Classes, Familias, Genera ac aetates Digesta, atque Tabulis Illustrata, legesque simul Psychologiae, Cranioscopiae ac Physiognomiae inde Derivatae. Autore JOANNE BAPTISTA SPIX, Medicinae et Philosophiae Doctore, Membro Academiae Scientiarum Monacensis Ordinario. Regiique Musei Zoologici et Zootomici Conservatore. Accedunt Tabulæ XVIII. Munich, 1815. Folio. Pp. 72.

Anatome Testudinis Europaeae. Indagavit, depinxit, Commentatus est LUDOVICUS HENRICUS BOJANUS, Medicin. et Chirurg. Doctor, in Universitate Caesarea Vilnensi Veterinar. Medicin. et Anatom. Compar. Professor Publ. &c. &c. Wilna, 1819. Folio. Pp. 74.

A BOOK of plates, the value of which consists so entirely in the manual execution, affords but little scope for our critical animadversions. We should, however, be doing an injustice to a meritorious artist, and would deprive ourselves of much gratification, were we to omit this early opportunity of expressing our sense of Mr Mitchell's merits in the work before us. The subject he has chosen, the delineation of the osseous system, is, of all the divisions and subdivisions of anatomical study, perhaps the most capable of being illustrated by engravings. The tuberosities, processes, depressions, and foramina of the bones, which are so necessary to be impressed upon the mind of the young anatomist, admit of accurate representation by the art of the engraver, and give to this fundamental branch of anatomy a stability and permanence of character, which, being totally independent of the art of colouring, and altogether unsuited to the display of fancy, may be conveyed with much effect through the medium of good plates. It is, perhaps, to an opinion, such as we have now expressed, that we are indebted for the elegant engravings of the human bones by Albinus, by Cheselden, and by Sue, which Mr Mitchell has copied with so much accuracy and success.

The eminent individuals we have just named were, no doubt,

aware that much correct and useful information respecting the bones was capable of being conveyed by engravings, of the aid of which the soft parts are certainly less susceptible. We have, indeed, figures of the muscles by Albinus and others, which are much admired for their accuracy, but, at the same time, exhibit a stiffness foreign to the nature of muscle, although perfectly characteristic of bone. Were the original works above alluded to, to be had upon reasonable terms, or were they even procurable upon any terms, we should have hesitated to recommend a copy; but as these have long ago disappeared from the shops of the booksellers, and are only to be seen in public libraries, or on the shelves of virtuosi, we consider the rising generation of anatomical students as greatly indebted to Mr Mitchell, for having brought within their reach at a moderate expence, all the information which these celebrated originals are intended to convey.

A book of anatomical plates, patronized and illustrated by Dr Barclay, is a phenomenon which we cannot pass without notice; and we consider it no small proof of the merits of Mr Mitchell's work, that he has been enabled to procure the aid of this distinguished anatomist in furnishing the letter-press. We now see, as it were by contrast, the force of Dr Barclay's objections to plates representing arteries and other parts variable in size and distribution, while, in the present instance, we see him encouraging and aiding in the execution of a work in which plates are applied to what he considers their more legitimate object; he admits that they may serve to "elucidate verbal descriptions, assist the fancy in forming its conceptions, and the memory in recalling past recollections, when the originals are imperfectly remembered, or cannot be procured;" and we fully agree with him in observing, that all engravings are to be considered "merely as auxiliaries; and, for that reason, are never to be called to interpret for Nature where Nature is at hand to interpret for herself."

In the letter-press explanatory of Mr Mitchell's engravings, Dr B. has contrived to introduce many interesting and some original remarks. In the preface he has given his reasons for recommending Mr Mitchell to copy the tables of Albinus and Sue in preference to attempting a work from original drawings; and with these reasons we are satisfied. He has also paid a just tribute to the unrivalled osteology of Monro, in assigning his own reasons for declining to attempt a new description of the bones.

In the explanation of Plate XIX. we have the following observations on the course of the medullary artery of the ulna.

"The course of this artery," says Dr B., "and the corresponding arteries of the radius, is recurrent, while the course of the medullary artery in the humerus is progressive. This difference in the course of these arteries has never been satisfactorily explained; and what adds to the difficulty of the explanation is, that the course is different in the corresponding bones of the atlantal and sacral extremities. In the humerus progressive; in the femur recurrent; in the radius and ulna recurrent; and in the tibia and fibula progressive. It, indeed, has been observed, that, in a standing or a sitting posture, the position of the humerus, tibia, and fibula, where the course is progressive, is somewhat perpendicular to the horizon, while that of the femur, radius, and ulna, where the course is recurrent, is rather more in a parallel direction. But these temporary positions will not account for the course of the arteries, as that course had received its direction before we were born, and before we were capable of sitting or standing. If the course, therefore, is to be referred to any positions, it should be to those which the bones had while they were in utero. As a means of remembering the particular course in these several bones, it may be observed, that it is progressive in the three bones which are inflected, dorsad, or backwards, and recurrent in the three which are inflected sternad, or forwards. Aristotle, I think, was the first who remarked that, beginning from the trunk, the successive inflections of the bones which correspond in the atlantal and sacral extremities are in opposite directions; the humerus bending backwards, the femur forwards, the radius and ulna forwards, and the tibia and fibula backwards; and that inflections in the same extremity are found to be alternately backwards and forwards, or forwards and backwards. Comparative anatomy, so far as I know, has not been consulted to any extent with a view to throw light upon the course of these medullary arteries. So far as my inquiries have led me, I have met with nothing on which reason or judgment can repose with confidence. In referring it to a position of the bones while they were in utero, I naturally thought of the veins and arteries which are ramified on the testicles, and which have their origin as high as the kidneys, where the testicles had lain previous to birth."

In the explanatory remarks attached to Plate XXXII., which represents the male, the female, and the fœtal skeletons, Dr Barclay shews, that most of the characters which Soemmering has attributed to the female skeleton, are still more remarkably characteristic of that of the fœtus, and that, in the progress from youth to maturity and old age, the female skeleton differs less than that of the male, from the original characters which they both possessed in the fœtal state. He then goes on as follows:

"After these remarks on the forms and structures of the human skeleton, which relate to the differences of age and sex, I have only to add, that certain forms of the face and head, different from any

that are known to occur in the male, the female, or the fœtal skeleton, are, as Camper has shewn, regularly observed in those sculptured figures, which the ancients formed to represent their imaginary deities. In the singular design of these uncommon artificial forms, it evidently appears, that the artists had something more in their view than the mere difference of what Camper has denominated the facial angle. The part called the face has many resemblances to that of the fœtus, and, therefore, is found proportionably small, compared with the part which is named the cranium. The two jaws seem also to be formed like those of the fœtus, as if destined to hold only twenty teeth, instead of thirty-two, but at the same time with such a depth and quantity of bone as are only to be found in the full vigour and meridian of life; the forehead, too, as well as the jaws, presents a combination equally uncommon; a fœtal form of the frontal bone, with two sinuses and a glabella proportionally elevated; a combination that leads to a feature which, to the eye of the anatomist, is strikingly peculiar; a nose, raised from the small receding bones of the face, to the same elevation as the glabella, a nose of such size, prominence, and strength, as irresistibly to suggest an idea very different from what we are apt to form in looking at the small, the slightly prominent, and the feeble nose continued from the flat glabella of the fœtus. By methods such as these, the effects certainly of much previous observation and reflection, the ancient sculptors, by artificial, yet harmonious combinations of those characters which indicate youth, with those which express the vigour of manhood, and the dignity of age, and by carefully excluding whatever implied debility in the one, or decay in the other, have produced forms which, though not natural, are admirably calculated to dazzle the eye, to captivate the fancy, and engage the feelings, before the judgment, which is tardy in its processes, has time to operate. Besides, these forms were not intended to be those merely of ordinary men, for, though meant to be human, they were also meant to be something more,—the representations of heroes or of gods, of whom men were supposed to be resemblances; though resemblances as unlike as an ape is to a man."

The field of comparative osteology, the study of which Mr Mitchell's talents appear so well qualified to facilitate, is a subject which, in this country at least, has hitherto been but little indebted to the art of engraving. If we except the anatomy of the Horse by Stubbs, there is scarcely any thing in this department which has been produced in England worth notice. The rude representation of the bones of the Elephant by Blair, in which, by the bye, the two scapulæ are transposed, that of the right side being placed on the left, and *vice versa*, while six toes are placed on the fore foot and four on the hind; * the im-

* Osteographia Elephantina, or a full and exact description of all the Bones

perfect figure of this animal in the Elephantographia Curiosa D. Georgii Christophori Petri ab Hartenfels, published in 1715; and even the more recent and finished view by the celebrated Cuvier, * are thrown far into the shade by the splendid representation of the skeleton of the Elephant annexed to Mr Mitchell's work, as a specimen of a third fasciculus which he proposes to publish. From the engraving before us, we have formed a very high opinion of the talents of Mr Greville, from whose drawing this view is taken, and of the accuracy of the subject from which he had to copy, we entertain no doubt. It represents an oblique view of the stupendous skeleton, which occupies so conspicuous a place in Dr Barclay's museum. This Elephant, which was one of those employed by the East India Company, for the purpose of transporting camp equipage and military stores, having become unserviceable from disease of the lungs, was exposed to public sale, and was purchased by Dr Ballingall, now of this city, who, with his own hand, killed it by pricking it in the spinal marrow, and after cleaning the bones, transmitted them to this country, having previously taken the admeasurements of the cartilages necessary to assist him in the correct articulation of the skeleton. † The representations of

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of an Elephant which died near Dundee, April 27, 1706, &c. By Patrick Blair, M. D., F. R. S. This is a work highly creditable to Dr Blair, considering the period at which it was written, but the plate which accompanies it is singularly defective in the points we have mentioned. These defects have not escaped the notice of Cuvier.

* Recherches sur les ossemens fossiles de Quadrupedes, &c. Par M. Cuvier. Paris, 1812.

† We have the pleasure of laying before our readers a copy of the original memoir sent home by Dr Ballingall, along with the skeleton of this elephant.

On the 18th of April, 1813, I purchased, for two pagodas, (about 16 shillings sterling,) an unserviceable female elephant, and after riding her out to the side of a tank about two miles from the cantonment of Bangalore, the animal was killed in the following manner. A piece of an old regimental sword blade having been fixed in a wooden handle, was driven into the spinal marrow, between the occipital bone and the atlas. This was effected by one blow of a small tent mallet, the elephant having been previously made to lie down, and the feet and trunk having been secured by strong ropes and iron chains. I then proceeded, assisted by Lieutenant M'Gregor of the Royals, to dissect this animal, separating the different joints, and afterwards boiling them to remove the flesh from the bones, in which we were occupied for three days, assisted by sixteen chucklers or native shoemakers, who are the people generally employed in India for flaying animals and other purposes of this kind. From the heat of the climate, it was impossible to make any deliberate dissection of this enormous creature; a few particulars, however, are worthy of being noted, as some of them are to be attended to in the articulation of the skeleton. The

the skeletons of the Scolopax gallinago, the Motacilla rubecula, and Perca fluviatilis, are in no degree inferior, either in point of beauty or accuracy, to the view of the elephant; and, by having selected animals, which, in point of size, approach towards the extremes of the animal kingdom, Mr Greville and Mr Mitchell have shewn us how admirably qualified they are to do justice to all the intermediate gradations. We shall now close our observations on Mr Mitchell's book, by congratulating ourselves on having amongst us an artist so capable of doing justice to anatomical subjects, and by expressing a hope, that he will meet with sufficient encouragement to prosecute the subsequent part of his work.

In the splendid work of Dr Spix, of which we can only present our readers with a brief and imperfect sketch, we have a most important contribution to the subject of comparative anatomy, and feel disposed to appreciate very highly every thing which can tend to render this study more captivating and

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trunk, an organ of such various utility to the elephant, consists of a flexible tube, divided by a partition into two separate canals, and composed of an inter-texture of fleshy fibres, resembling the structure of the tongue. Externally it is covered with a skin much finer than in other parts of the body, and studded with papillæ or tubercles, and is lined internally with a fine vascular membrane.

On opening the thorax of this subject, the lungs were found to contain a large quantity of purulent matter, in several separate abscesses. This was what rendered the animal unfit for further service, having been what is commonly called broken-winded.

The diaphragm, on its lower or abdominal surface, presented a large expansion of beautiful shining tendon. In the cavity of the abdomen, not less than fifteen or twenty gallons of serum were contained; all the viscera, however, in this cavity seemed perfectly sound. A large inter-articular cartilage, more than a quarter of an inch thick, was placed between the condyle of the lower jaw and the temporal bone. The intervertebral cartilages of the cervical vertebræ were nearly three-eighths of an inch thick. The intervertebral cartilages of the back and loins were from one-half to five-eighths of an inch in thickness. This being a female, the tusks are comparatively small, and of no value as articles of commerce. It will be observed that one of the molares is partly destroyed by caries, which is probably not an uncommon disease in this animal. I have seen in the possession of Captain Jones, assistant commissary general, a carious tooth of an elephant, which was extracted in the following singular manner. The keeper having made a noose in one end of a rope, passed it round the decayed root of the tooth, and fixed the other end to the root of a tree; the animal, which was lying down during this operation, was now made to rise up, and the tooth was by this means extracted.

The subject of the present memoir differs in two remarkable points from the description of Cuvier, there being only 19 instead of 20 dorsal vertebræ, and of course only 19 ribs of a side; and the tibia and fibula, instead of being anchylosed throughout their whole extent, stand considerably apart, as far, in proportion, I think, as in the human subject.

more popular. We are by no means satisfied with the attention which it has met with in England, and a bare enumeration of the authors referred to by Dr Spix, will shew how far we have been outstripped in this department by the continental writers. Amidst the penury of works on this branch of study in our native language, we are persuaded that the interests of the profession would be advanced by translations of many of the continental authors whom we could point out. We know no works more captivating to young men who enter with liberal and philosophic views into the study of their profession, than M'Cartney's translation of Cuvier, and Laurence's Blumenbach, and, indeed, we are convinced, that it is to these very books our present class of anatomical students are indebted for nine-tenths of all the information they possess on comparative anatomy. The study has always appeared to ourselves a most interesting one, and in addition to its more immediate bearing on the physiology and pathology of our domestic animals, its utility in illustrating the obscure functions of the human system has long ago been pointed out.

"Experimental philosophy is highly advanced by the frequent dissections of the body of man and other animals, which I have performed with all care and fidelity, that I might inspect the great secrets of nature, and declare the works of the allwise and omnipotent Protoplast, who hath made all things in number, weight and measure."—"And I humbly conceive the great use of comparative anatomy is, to illustrate the structure, actions, and uses of man's body, which are sometimes more clear in that of other animals than in ours; as I have discovered in frequent dissections to my great satisfaction, pleasure, and admiration, whereupon I procured my worthy friend Mr Faithorne, an excellent artificer, (if not the best in the world in this kind,) to engrave the open parts of the body and brain of man, and other animals designed from the life." *

What improvements have been made in the art of anatomical engraving since the days of Dr Collins, and his worthy friend Mr Faithorne, an inspection of the works before us is well calculated to evince. But to return to Dr Spix; our author divides his work into three sections, De Capite Osseo, De Psychologia, and De Cranioscopia et Physiognomia. The cranium he considers as consisting of three vertebræ, and designates them thus, vertebra

* A Systeme of Anatomy, treating of the Body of Man, Beasts, Birds, Fish, Insects, and Plants, by Samuel Collins, Doctor in Physic, &c. &c. London, 1685. 2 vols. folio.

anterior, sive tertia, sive cranio-cephalica, sive frontalis; vertebra media, sive secunda, sive thoracico-cephalica, sive parietalis, vertebra posterior, sive prima, sive abdominali-cephalica, sive occipitalis. These vertebræ are again considered as composed like the spinal vertebræ, of a body, transverse, and spinous processes. The primary subdivisions of the cranium into anterior, middle, and posterior vertebræ, are again compared (as is indicated by their names) to the three great cavities of the body; the venters of ancient writers; the face, which is considered as the extremity of the cranium, is subdivided into pars suprema, sive extremitas vertebræ frontalis; pars media, sive extremitas vertebræ parietalis, and pars infima, sive extremitas vertebræ occipitalis. An analogy is then traced, with much ingenuity and considerable success, between the two last subdivisions of the face, and corresponding parts in the thoracic and abdominal, or atlantal and sacral extremities. With regard to the number of distinct bones composing the cranium, our author considers this as being nearly the same in man and the inferior animals; several of the parts, however, in the human head, becoming consolidated into one bone at an early period of life, while, in many of the inferior animals, they remain distinct "usque ad mortem." With regard to the os incisivum, which has been a *bone of contention* amongst anatomists, and which has been supposed to furnish a specific distinction between man and the animals which most nearly resemble him, our author entertains no doubt of its existence in the human embryo at an early period. He has seen it also in adults, and mentions the skull of a hydrocephalic subject in his possession, in which the left intermaxillary bone is separated by a considerable space from the remainder of the jaw; Meckel he informs us found the os incisivum again subdivided, and each of the dentes incisores possessing a distinct bone for its socket.

From the list of writers enumerated by the author, who have treated on the structure of the ear in the amphibia, we should have expected that little would have remained for investigation on this subject; there appear, however, to be several points upon which these authors are still at issue. Dr Spix agrees with Monro in affirming the existence of the meatus externus in cartilaginous fishes, which is denied by Camper, Scarpa, and Cuvier. We have some interesting observations on the progress of ossification in the different bones of the human embryo; and are referred to a work, "Nonnulla de incremento ossium embryonum in primis graviditatis temporibus," published at Halle in 1802, by Senff, whom our author characterizes as "præ omnibus in examinandis embryonibus solers." These observations are followed by remarking that the organs of

seeing and hearing, which he considers as the more noble senses, vary their position in the cranium as we descend in the scale of being from man downwards, and that in proportion as the site of these organs recedes upwards and backwards, the nose and jaws, the seats of the more ignoble senses of smell and taste, advance forwards and become more prominent. In man we find the lower jaw articulated near the middle of the cranium, while, as we descend in the scale of animated nature, this joint is thrown backwards to the very extremity of the occiput. We have also some excellent remarks on the variation, in point of size and position, of the different foramina and fissures for the transmission of the nerves and blood-vessels in the crania of different animals. Our author then proceeds to point out the different admeasurements of the head, proposed by Daubenton, Camper, and Blumenbach; and recommends some new admeasurements for ascertaining the relative proportion between the cranium, properly so called, and that part of the head destined for the organs of the senses.

This subject cannot well be explained without the aid of figures, and we cannot afford time at present to enlarge upon the variation that exists in the basifacial angle, from the heads of the Grecian divinities and heroes, down to the Carib and the monkey. The contrast is sufficiently striking, and did not escape our immortal dramatist, who appears to have anticipated one of the principal points in modern craniology, and to have been perfectly aware of the flatness of the forehead as characteristic of inferiority.

> "I will have none on't; we shall lose our time,
> And will be turned to barnacles or to apes,
> *With foreheads villanous low.*" *

In the course of the work we have the analogy already referred to, between certain portions of the face and corresponding parts of the atlantal and sacral extremities, traced to the very nails of the fingers, to which the teeth are considered as the analogous parts in the facial extremity; and among other singular analogies with which this work abounds, the human head is compared to the globe which we inhabit, and the sutures are made to represent the boundary lines between the frigid, the temperate, and the torrid zones of the human skull.

In the second section of Dr Spix's book De Psychologia, we have many interesting observations; his views, however, in this

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* Tempest, Act IV. Scene 1.

part of the work, do not strike us as being characterized by the same originality which he displays in the first. It gives us pleasure to observe, that his doctrine of psychology is not obtruded upon us in the same reprehensible form which we had so lately occasion to notice, as emanating from a Professor of the Royal College of Surgeons of London.

Our author, in his third section De Cranioscopia, accuses Gall of having borrowed the whole of his system from Lavater, and this accusation he supports with considerable force. He admits Gall's merit in the investigation and explanation of the structure of the brain, while he utterly denies, that his system of cranioscopy is either supported by science or experience.

The plates, which form an essential part of this work, represent the heads of a variety of animals, both in their entire and divided state, so as admirably to illustrate the various positions of the author; plate 9th, representing the heads of several fishes, is particularly calculated to give us a most favourable impression both of the anatomist and the engraver. The whole of the figures are engraved in stone by Koeck, and afford by far the most useful specimen we have seen of this new art, which appears to have been brought to great perfection at Munich. * Upon the whole, Dr Spix's work, amidst numerous displays of a powerful conception and vivid imagination, contains much novel, accurate, and highly interesting observation. The author, we understand, has lately proceeded on a scientific mission to South America, where an ample field for prosecuting the study of comparative anatomy is open to him, and we sincerely wish him health to cultivate it.

The anatomy of the tortoise by Bojanus need not detain us long. It consists of seventeen very neatly executed tables in copperplate, representing the skeleton, muscles, and viscera of this animal, accompanied with copious explanations. It affords, upon the whole, another very favourable specimen of the industry of the German school; industry which, in the cases of Drs Spix and Bojanus, has been turned to infinitely better account than that of their learned countryman, who set himself to reckon the number of hairs in a square inch of human scalp.

We conclude by again expressing our surprise, that the study

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* We are happy to find that a Lithographic Society has lately been formed in this city, containing several distinguished names in the list of its members. We have seen some specimens of this modern art executed by Mr Ruthven, the ingenious inventor of the portable printing-press, which, considered as his first attempt, do him much credit, and we expect soon to be able to form a correct estimate of the comparative merits of stone and copperplate engraving.

of comparative anatomy, which is the true foundation of all rational physiology,—which in its collateral relations embraces the scientific treatment of the disorders incident to the horse, the ox, and the dog,—and which is thus calculated to interest the first and noblest characters in the land, should have been left so totally destitute of public encouragement in this country. It ought to be the province of some of our enlightened public bodies, to bestow upon this study such efficient patronage as will insure its more general cultivation, and form a class of practitioners qualified to rescue the practice of veterinary medicine from the rude and untutored hands in which, with few exceptions, it is still to be found. Dr Barclay, to whom we have already had frequent occasion to allude, has for some years past given a short course of comparative anatomy in Edinburgh during the summer season, and has done all that his well known zeal and industry can accomplish, to extend the knowledge of this science; but until we see it aided by public approbation, and looked upon in another light, than as a mere appendage to a medical education, which a student may either cultivate or disregard at his pleasure, we shall despair of seeing any steady progress made in the knowledge of that branch of medicine, in which the warrior, the sportsman, and the farmer, are so directly interested.

III.

A Treatise on the Operations for the formation of an Artificial Pupil; in which the Morbid States of the Eye requiring them are considered, and the Mode of performing the Operation adapted to each peculiar case, fully explained; with an Account of the Opinions and Practice of the different Foreign and British Authors who have written on the subject. With two Copperplates. By G. J. Guthrie, Member of the Royal College of Surgeons, &c. 8vo. pp. 209. Longman and Co., London, 1819.

Mr Guthrie is already known to our readers as an army surgeon of high rank, and author of an excellent work on Gunshot Wounds and Amputation, of which we had occasion to form a very favourable opinion, as expressed in our Review for

April 1816. He now comes before us as a public teacher, and surgeon to an institution for a class of diseases, which has of late excited the greatest interest among all ranks of medical men, and among not a few extra-professional persons.

The history of ophthalmic surgery in England might afford us much scope, both for detail and speculation, but we shall rather defer entering into it, until we come to examine the second part of Mr Guthrie's work, on Iritis and Cataract, now in the press. We shall at present confine ourselves to giving the plan of that part of the work before us, which, although avowedly meant for the author's hearers, and indispensably necessary for them, we would strongly recommend to the attentive perusal of all classes of readers; for we do not know any English publication which contains, in so small a space, so much information on the artificial pupil, or which so effectually obviates that necessity of possessing several works on the same subject which has hitherto existed, "merely," as Mr Guthrie observes in his preface, "because each author has chosen to recommend only his own practice or methods of operating,"—to which we would add, "and has made it a point to decry the methods of every other person." We have here no controversial disquisitions—no exclusive pretensions—none of those multiform and plausible disguises in which quackery delights; indeed, we were prepossessed in favour of our author when we read his preface, in which he disclaims these things; and our prepossessions were confirmed on perusing the work itself, where we found, according to his promise, that when Mr Guthrie thought it right to combat the opinions of either the living or the dead, he did so with liberality, stating the facts fairly on both sides, and then drawing his own inferences from them; but above all, he has given "to every one his own," a species of literary honesty not very punctiliously observed by medical writers in general, but shamefully neglected by those who have felt it of importance to their interests to treat on the diseases of the eye,—so much so, indeed, that were restitution to the right owners rigorously enforced, some of those gentlemen would be lamentably shorn of their beams, and left with little more than their pompous title-pages, and their fulsome dedications, to present to their "polite and noble" patrons. It is truly gratifying, however, to see what advances are now making in this country to rescue from the hands of empiricism this interesting department of the profession.

Mr Guthrie's work commences by enumerating the four successful, and the two doubtful methods of forming an artificial pupil, with reference to the different authors who have treated

on them. He then gives a history of their operations from Cheselden downwards. The six methods to which he alludes are, 1st, Division of the iris, either through the sclerotica or an opening in the cornea. 2d, Excision of the iris. 3d, Separation of the iris. 4th, Separation and excision combined. These are the successful methods. The hitherto unsuccessful methods are, 1st, Removing a portion of the sclerotic and choroid coats, close to the cornea, where that part is palpably opaque, so as to allow the rays of light to pass into the eye, as proposed by Autenrieth; and 2d, Separation and division of the iris, through the same opening in the sclerotica, the method of Donegana.

The classification of the different states of the eye requiring the operation for artificial pupil is very well arranged, and very comprehensive, and on each of the divisions and subdivisions the author treats at length. The following is his classification.

" *Classification of the states of the eye requiring the operation for the formation of an artificial pupil.*

" The morbid affections of the eye, which render it expedient to perform an operation, in order to produce an artificial pupil for the transmission of the rays of light to the retina, though many and various, may nevertheless, for the sake of arrangement, be comprehended under three general classes, namely—

" 1st, Those morbid states of the eye which depend on derangement of the structure and function of the iris, or of the crystalline lens and its capsule, the anterior chamber of the aqueous humour preserving its natural dimensions, the central part of the cornea remaining transparent.

" 2d, Those morbid states of the eye which depend on derangement of the structure of the cornea, the anterior chamber being nearly or quite natural in its dimensions, the iris, the crystalline lens and its capsule being healthy.

" 3d, Those morbid states of the eye which depend on any combination of the two preceding states of disease, or with a diminution of the anterior chamber of the aqueous humour.

" *In the first class are included—*

" *a.* Those cases in which closure of the pupil has taken place, in a greater or less degree, after the operations of depression, reclination, extraction, or by division of the crystalline lens, with or without the formation of an adventitious membrane, or deposition of coagulable lymph. The capsule having been destroyed or not.

" *b.* All cases of false cataract, of whatever description, wherein the lens, or its capsule, adhere to the posterior part of the iris, with diminution of the area of the pupil. The principal cause being inflammation of the iris, whether simple or dependent on general de-

rangement of health, syphilis, or rheumatism, the iris being more or less of its natural colour and structure, but plane on its anterior surface.

"*In the second class are included*—

"*a.* Those cases in which the cornea is rendered partially opaque (leucoma) in consequence of ulceration, operation, or other cause, preventing the transmission of light, or impeding it so much as to render vision indistinct; but in which the anterior chamber, the lens and its capsule, remain unimpaired.

"*In the third class are included the following cases*—

"*a.* A slight attachment of the iris, drawing the natural pupil to one side, with diminution of its size, the lens and capsule being transparent, the cornea opaque at the point of attachment.

"*b.* The same with opacity of the lens and capsule.

"*c.* When the iris is convex, but not adhering to a transparent cornea, the pupil nearly closed, the pupillary edge of the iris firmly adherent, the anterior chamber considerably diminished, or nearly destroyed.

"*d.* The state *c* combined with opacity of the cornea, and attachment of the iris, including the natural pupil.

"*e.* The state *d* combined with a staphyloma of the cornea, in a greater or less degree, the lens being present, or having been removed.

"*f.* Either or all of the three last varieties of disease, combined with central opacity of the cornea, so dense and large as to leave only a narrow transparent ring, the aqueous humour not being entirely wanting.

"*g.* The states included in *f*, the iris in contact with the cornea, a segment of a narrow ring at the edge being alone transparent, and the anterior chamber obliterated.

"*h.* Other anomalous states, not included in the above, but requiring some modification in the mode of operating." pp. 87—89.

It would be doing neither justice to the author, nor performing our duty to our readers, did we attempt a continuous abstract or an analysis, which the nature of Mr Guthrie's book does not admit of, for it is itself analytical; its style is as condensed as it can be consistent with perspicuity, and any attempt to make it more so would tend to obscure it. But, that we may not fail in giving some idea of the matter, we select some detached observations which appear to us eminently indicative of good sense and moderation, and which, in addition to our previous knowledge of that eminent surgeon, convince us that Mr Guthrie has not only skill to execute his operations, but judgment and discretion in selecting the proper time for performing them,—which we hold to be a matter of fully more importance.

"When an artificial pupil cannot be made in the centre of the iris,

(from whatever cause,) the other parts of it are eligible in the following order. 1st, The inferior part of the iris inclining inwards. 2d, The internal, a little below the transverse diameter of the eye. 3d, The inferior and external. The upper part being the least eligible, from the eyelid covering that portion of the cornea in the natural state of the eye. The lower and inferior parts of the iris are to be preferred for the following reasons; because the line of vision being through that part, the eye is less removed from its natural axis, and consequently less squinting is occasioned than when vision is performed in any other direction; and, if both eyes are operated upon, the axes of vision are made more nearly parallel; and a decided preference of a position, not higher than the centre of the iris, is founded upon the natural position of by far the greater number of objects of vision, which it is essential for a person to see, being viewed forwards or downwards. In general, however, the selection of the place, in which the iris is to be perforated, depends more on the transparency of the cornea than upon the choice of the operator.

"It may be useful to remark, that a small artificial pupil at the lower part is infinitely more valuable than a large one at any other, which, in the natural state of the eye, is covered by the lid, or much out of the axis of vision. If the pupil be made quite on the nasal side of the eye, the field of vision is less extensive in proportion as it is distant from the inferior margin of the cornea; and, although this objection cannot be urged against the pupil made towards the temporal side, still there is a defect frequently observed, if the pupil be small, and near the ciliarly margin of the iris, from the patient's turning the eye a little inwards, to allow the rays of light to fall more on the central part of the retina; and this is even accompanied, in some instances, by a corresponding motion of the head, when the person is desirous of submitting any thing to an accurate inspection.

"If the state of the cornea will permit of it, a sound part of the iris should be selected in preference to that which is apparently unhealthy; for the iris, when sound, seldom bleeds, and it is not liable to inflammation when injured, or divided with a cutting instrument; in its natural condition, indeed, it has but little sensibility, and is therefore not very susceptible of pain, but with an unhealthy iris, we find the reverse to be the case; when wounded, it bleeds copiously, is prone to inflammation, which terminates not unfrequently in suppuration, or the deposition of lymph: and it is manifest, that the occurrence of either may eventually destroy the eye, or render the operation unavailing, by filling up the aperture made to serve as a pupil, with a deposition of lymph, or even by the formation of an adventitious membrane behind it.

"The central part of the iris frequently appears unsound, whilst it is more healthy at its outer or inner margin, in which case one of these places should be selected for the operation, notwithstanding the rule which has been stated.

"The external and internal margins of the iris, immediately on a

line with the transverse diameter, or equator of the eye, are particularly unfavourable for the operation of separating the iris from the ciliary ligament, (Coredialysis,) on account of the long ciliary arteries entering at these parts, and causing, by their division, a greater hæmorrhage, and frequently a higher degree of inflammation than would otherwise occur; which dangers are augmented by the more firm attachment of the iris at this part, and the greater force necessarily employed for its separation.

"The operation for artificial pupil should not be recommended where one eye is sound; for, as the axis, as well as the power of vision, will be different, it is likely, in most instances, to be prejudicial rather than serviceable; and especially if the lens be in any way implicated, for it will confuse the sight of the sound eye, and, by making the patient squint, give rise to greater personal deformity and inconvenience than it was intended to rectify. If the lens and capsule be perfectly transparent, and the pupil can be made at the inferior and internal part of the iris, observing an axis parallel to that of the sound eye, no inconvenience may perhaps ensue, as has frequently been observed to be the case, where the pupil has been drawn a little to one side, in consequence of a slight attachment of the iris to the cornea. But an exception of this kind does not invalidate the general rule of not performing an operation on one eye, whilst the other remains entire.

"It is a question of some moment to decide whether the operation ought to be performed, or not, in those cases wherein vision has been totally lost in one eye, and materially impaired in the other; and the decision ought to rest with the patient, rather than with the surgeon, even where the prognosis is favourable; for, if the patient still enjoys sufficient power of vision to enable him to guide himself, the surgeon would be more than hardy who could put that portion of the faculty of sight in jeopardy, by attempting an operation which may fail in the best hands. In such circumstances the operation should not be attempted upon any grounds, unless the case is so simple as to require only an opening in the cornea, and the removal of a portion of the iris for the purpose of enlarging the natural pupil. If the patient cannot see sufficiently well to guide himself, the conditions are very essentially altered: since an unsuccessful operation involves the loss of very little, whereas much is to be gained by the successful issue of it. Where opacities in the centre of the cornea occasion the impediment to vision, it is prudent to dilate the pupil beyond the edge of the opacity, by the daily application of the belladonna, which may possibly enlarge the sphere of vision, so as to supersede, in a doubtful or dangerous case, the necessity of an operation.

"I am perfectly aware that, in many cases of this kind, an operation may be followed by the most brilliant success; but it is not to be denied, that total blindness has been produced by this operation, in many instances; simple, therefore, as it may appear, it ought not to be practised without the free concurrence of the patient, un-

biassed by the language of authority, founded solely upon a fair and true statement of all he has to hope for, or to apprehend from its consequences." pp. 79—83.

Two very neatly executed plates illustrate this publication. It is dedicated to the Vice Presidents of the Royal Westminster Infirmary, for the Cure of Diseases of the Eye, among whom we perceive many distinguished officers of the army, navy, and ordnance, and some of the highest medical characters of this country. His Royal Highness the Duke of York, Commander in Chief of the Army, is Patron of the Institution, and the Duke of Wellington, President. The medical officers are, Dr Charles Forbes, Physician, and Mr Guthrie, Surgeon. They have our warmest wishes for the success of their honourable and disinterested undertaking, and this first production of their school gives the strongest assurance of their meriting it.

IV.

A Sketch (Analytical) of the History and Cure of Contagious Fever. By Robert Jackson, M. D. London, 1819. 8vo. pp. 284.

This is the excellent work of an excellent man; another contribution added to the many which have been bestowed from the same pen on medical science. Its venerable author is, we understand, pursuing the vocation of his long and well spent life, in exploring the sources of the pestilential epidemic which lately raged at Cadiz, and if he lives to return to us, we may look for further illustrations from him of the nature and causes of Fever. But our business is with the book before us, to give any thing like a detailed account of which would require much more than another volume of the same size, so various are the views, so profound the researches, and critically nice the distinctions, which he draws between the various shades of fever, as modified and complicated by diversity of the causes, and still more of the circumstances under which the subject has happened to be exposed. It is in fact a text-book, the greater part of which teems with speculations and views of contagious fever, which, though peculiar in a great degree to the author himself, are always philosophic.

The First Chapter is divided into five sections, and contains a summary of the history of contagious fever, as it occurred on the different services where he was employed with the British army from the beginning of the French Revolutionary War. In section 1st we have a most interesting sketch of the health of the 3d regiment or Buffs, previous to, and after embarking to join the grand army in Flanders in the year 1794, and of that army itself after the 3d became a part of it. It ought to be read by every one who wishes to obtain a correct knowledge of the phenomena of fever, or who feels interested in preserving the lives of our brave soldiers, and preventing a recurrence of the same shocking mismanagement which consigned them to the grave by thousands, during that disastrous campaign. The miserable effects of crowding multitudes into those hot-beds of contagion called General Hospitals, is most feelingly pourtrayed. The precise relative proportion of deaths is not exactly known, but it was enormous, probably a third of the infantry. So virulent it seems was the artificial infection, that it actually superseded the natural endemic fever of the country, which under other circumstances could not have failed to predominate among so great a body of strangers; and so purely was the contagion the offspring of mismanagement in the formation and establishment of the greater body of the army, that the cavalry, where more pains had been taken in the selection of recruits, and where the regiments, being mostly the older corps, contained the most experienced regimental officers, remained almost entirely free from it, during the whole time their comrades of the infantry were suffering so severely. The practice of the author does not seem at that time to have been fully developed, for few, indeed, have courage to open their eyes at once to the monstrous errors of established systems, which they have been early taught to hold in reverence.

The 2d section contains a description of an healthy detached armament amongst whom no contagion existed, where the troops, to prevent desertion, were congregated on a bare unsheltered island in the Cove of Cork, without any kind of hospital accommodation, in the autumn of 1795. The origin of typhus fever, the endemic of the British Isles, amongst them, is thus naturally accounted for.

"The weather, usually wet, damp, and drizzling, on the west coast of Ireland, at this season of the year, was boisterous and stormy in the year 1795, particularly in the months of October and November. The tents, in which the soldiers lived, were often blown down by the violence of the winds; and as rains generally accompanied the higher winds, the soldier was frequently wet to the skin; and,

while wet by descending rain, he was chilled and benumbed by the damp and bare ground, or the damp and rotten straw on which he was obliged to lie." p. 50.

The troops were to have sailed at the beginning of October, but the ships that were to transport them to St Domingo did not arrive till the end of November, and then adverse winds and other delays detained them, under the above circumstances, until the 9th of February. Embarkations of the troops who had become surcharged with contagion from the causes already mentioned, and disembarkation when the transports became so pestilential as to be uninhabitable, filled up the intermediate time, and in this way the contagion grew so inveterate, that it adhered to some of the ships throughout the whole voyage, and until their arrival in the West Indies,—a rare and uncommon circumstance, for typhoid contagion is almost infallibly dissipated by navigating towards the tropical seas. The principle which directed the practice at Spike Island, was stimulation in one form or other. Mercury, as recommended by Dr Chisholm, was also employed, but our author cannot bear a very favourable testimony to its effects. On arrival in the West Indies, his remedies were cold affusion, emetics, purgatives, blisters to the forehead, calomel, camphor, &c. &c. and occasionally blood-letting. But it was not until a later period that he overcame, as he informs us, the prejudice which was then so common against abstraction of blood in those fevers which arise from a source of personal contagion. We lament that our limits will not allow us to follow Dr Jackson, in his history of the health of the Russian auxiliary troops in the islands of the Channel, an account of which forms the subject of his 3d section.

The 4th section gives a history of the contagion that must ever be incidental to the wretched mode of recruiting our armies by *contract*, which was in vogue at the beginning of the present century. His fifth section contains "summary remarks on the character of the contagious fever, which appeared in the British army at its return from Spain, in the beginning of the year 1809." Its original causes were as nearly as possible those which befall all exhausted armies, that are obliged to suffer severe military service in inclement seasons, and the concentration and aggravation of the disease, were much promoted by the circumstances of an hurried and distressful embarkation in the face of the enemy after the battle of Corunna; its highly contagious nature was clearly demonstrated by its effects on the healthy crews of the ships of war that conveyed the troops during a very short passage to England. The disease was purely artificial in its source, and so

contagious and fatal, as to destroy one in four of the troops affected, one in seven of the medical staff in attendance, and a still greater proportion of the hospital servants. The results show, that no successful mode of practice was discovered or pursued.

Dr Jackson dedicates his Second Chapter to a short but affecting, and we cannot help adding a disgusting, exposure of the system by which our armies were recruited at the beginning of the revolutionary war. It is not a fit subject for medical criticism here, and we shall therefore pass on to the Third Chapter, where we find the author in the new capacity of a physician in private practice.

The description of fever in civil life cannot present the strong decided features of the purely artificial disease, that is generated in armies amongst masses of men,—of men, too, in the vigour of life, often under the highest circumstances of excitement. It is not, therefore, to this part of the work we would refer our readers for striking illustrations of the phenomena of contagious fever, but his remarks on the nature of epidemic and contagious agency, of their connection, their lapses into one another, and their separation according to peculiar states of the atmosphere, are both original and valuable; they come from the pen of a medical philosopher of no mean estimation, and as such ought to be read by all who take an interest in the promotion of medical science.

The Fourth Chapter, which is divided into five sections, gives a particular history of the jail or hospital fever, that purely artificial disease, which is excited by an animal poison, produced from undue accumulation of human effluvia; and here the author's views are both minute and profound, though in some places they are also complicated to a degree that is embarrassing, and are further obscured by a peculiar phraseology, which he has employed all his life, and which it would be most unreasonable in us now to expect that he will change. This part of the book, as we found it the most difficult to unravel, is the one we liked the least. It must positively be studied by our readers, and if they will bestow upon it the necessary time and attention, we can assure them that their labour will not be lost. The author, we believe, has seen more of this disease in all its varieties, than any other physician probably now in existence, and he has evidently contemplated and studied what he has seen, till the picture became impressed upon his mind in the strongest features of reality and truth. Its very intensity, under these circumstances, may have prevented him from communicating what he felt, in language that could be followed with ease by the generality of readers.

In the practical part, to which we come in Chapter IX. after three intermediate chapters on Dissection, Diagnosis, and Comparative Mortality, (the two last most particularly worthy of attention,) we feel ourselves more on a level with him. He begins the chapter by exposing the error and its consequences of presuming the action of contagious fever to be sedative, and on that ground trying to supersede or overcome it by stimulating remedies. He effectually combats the idea of inflammation being an *essential* attribute of contagious fevers, and, after some reasonings on the proximate causes of fever, concludes, that the cutaneous expansions are the direct seat of the disease, and hence the mainspring of the cure is made to rest on the impression made by warm and cold bathing, combined with frictions on the skin; but as these are to be combined, indeed, simultaneously used along with emetics, venesection, purgatives, diaphoretics, and blisters, we cannot bring ourselves to believe, that bathing practised in that manner can be a remedy of essential importance, or that, if the skin were duly purified, the patient would not do as well without such a bath, as with it. There might, besides, be something revolting to the feelings of many, in being exposed to dashes of cold water, after having been long immersed in a hot bath, and been additionally exhausted by loss of blood. In fact, all remedies in fever can be remedies of circumstance only. Blood-letting most certainly is not murder, as it was long represented to be; no more is it cure, though it is a most excellent prescription in many violent cases when properly applied at the beginning of the disorder; but when our author, without specifying the period of the disease, tells us, as he does at page 255, that the lancet should be used as initiative of movement in channels that are obstructed by congestion, we cannot agree with him, nor even allow that it is a remedy applicable to the generality of contagious fevers, though it may be useful in many, probably even the majority.

We are the more in earnest in entering this caveat, from the just fear of so excellent an auxiliary remedy being abused by indiscriminate application, when its certain consequent discredit must be the result, and ridicule and prejudice may again be excited to take the lancet entirely out of our hands. Such, at least, was the practice of the French faculty during the greater part of the last century, and such was the effect of the ridicule of Le Sage in pourtraying a Sangrado.

We confess, that, from universal conviction of their fallacy, we have little confidence in any system or plan of cure that can be laid down for fevers, and are satisfied that much

mischief must ever accrue from any attempt to treat every case with remedies of the same class. He, therefore, will stand the best chance of being a safe and a saving practitioner, who has studied all systems, but is wedded to none, who "nullius addictus jurare in verba magistri," approaches the sick bed, with the resolution to act according to the circumstances of the patient before him; to combat the symptom of danger as it arises, rather than attempt the counteraction of a proximate cause, which never has been, and in all probability never will be, understood.

As we said at the beginning, we trust that this is not the last time we are to meet in the field of criticism this veteran sage, who has been at so much pains to instruct us. A life, already extended beyond the ordinary mortal span, has been devoted by him to the furtherance of science and humanity. While on the field of duty he has ever been one of the most active and exemplary of the ministers of good works, and when he retired to his closet from the busy scenes of public service, his pen has always been employed to perpetuate the precepts of which his life has been the example. Can there be to our profession a more gratifying spectacle, one more worthy to be styled heroic, than to see a man so gifted, dedicate the best portion of his days to the noble purpose of exploring through unwholesome climes, amidst labour and danger, the hidden recesses of disease, with the sole view of benefiting his fellow creatures? Like others, he might in those climates have cried contagion, and stopped short on the very threshold of investigation, but such a course suits not the active philanthropic mind. At such a man we can scarcely bring ourselves to laugh, even when he seriously tells us, as he does at page 245, that cobwebs in some cases possess power superior to opium, and in his other works, that they are a remedy of efficacy in the endemic fevers of the tropics. It is better, however, to laugh than to weep, but with the chastening reflection ever before us, that there are few, even of the wisest, who have not fancies as eccentric as this; that they are even characteristic, not unfrequently of true genius; and that the giving to the world even under the risk of ridicule, whatever is conscientiously believed to be true, bespeaks an honest ingenuous mind that ought to command our respect.

It is gratifying to think that length of days has been accorded to Dr Jackson, as if for the express purpose of letting him see the triumph of those principles which it was the pride of his life to inculcate. For these he has suffered revilement and persecution, and no man, only a few years ago, stood a better chance of ex-

periencing the common fate of all who attempt to benefit mankind by exposing established systems of error. Contumely and hatred were dealt out to him in full measure, but the applauses and approbation for so good a work, which are ordinarily withheld till the grave has closed upon their object, have arrived while he yet walks amongst us, to cheer his latter days.

V.

The Philosophy of Domestic Economy; as exemplified in the mode of Warming, Ventilating, Washing, Drying, and Cooking, and in various arrangements contributing to the Comfort and Convenience of Domestic Life, adopted in the Derbyshire General Infirmary, and more recently, on a greatly extended scale, in several other Public Buildings newly erected in this Country; together with an Explanation of the Principles on which they are performed. The whole illustrated by numerous Engravings by W. Lowry. By CHARLES SYLVESTER, Engineer. Nottingham, Barnet, and London, Longman & Co., 1819. 4to, pp. 62, with Ten Plates.

THE Infirmary at Derby has been spoken of in such terms of approbation, that we have long wished for a description of it; and Mr Sylvester, the editor of the present volume, has fortunately every qualification for this task, his skill as a chemist and engineer being well known to the public, and his residence at Derby having afforded him the best opportunities of appreciating the value of the contrivances which he describes: it is, however, to *William Strutt*, Esq., of Derby, that the inventions which distinguish this establishment are primarily due, and they certainly reflect the highest credit on the philanthropy and perseverance, as well as the ingenuity of that gentleman. The volume before us is valuable, likewise, in a more extended view, since it illustrates several principles of great importance to the comfort and convenience of domestic life, which, if well understood, are calculated to assist materially the measures of the practitioner in medicine, or, what is still better, to prevent the occurrence of disease. It is not possible, without the assistance of plates, to lay before our readers a detailed account of the edifice now under our consideration, but we shall endeavour

Derbyshire Infirmary PLATE. 1.

Fig.1.

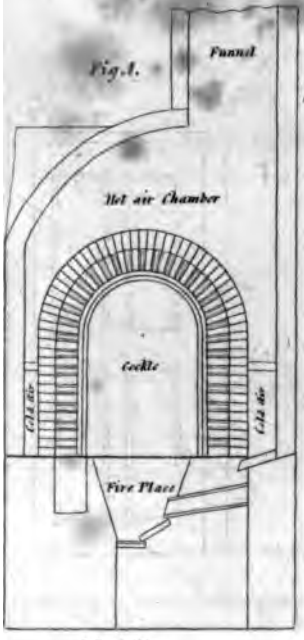
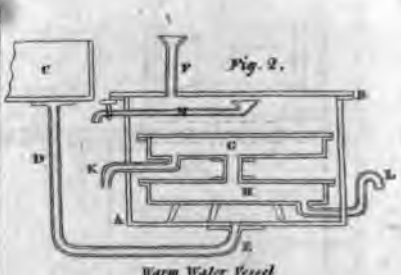
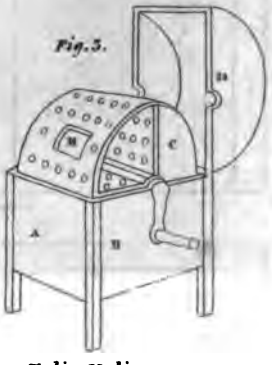


Fig.2.



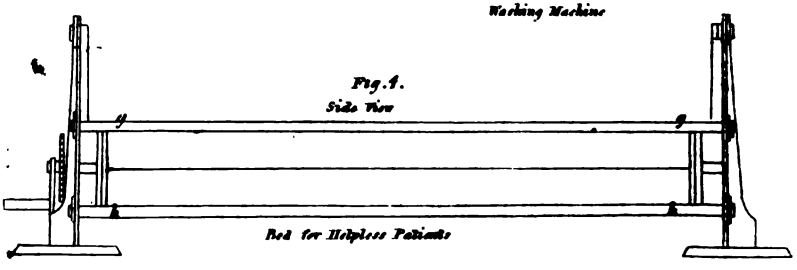
Warm Water Vessel

Fig.3.



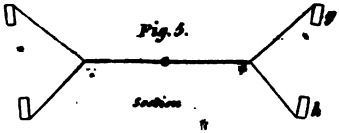
Washing Machine

Fig.4.
Side View



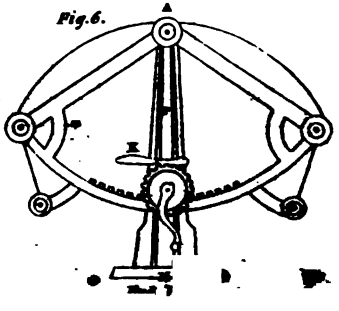
Bed for Helpless Patients

Fig.5.



Section

Fig.6.



Derbyshire Infirmary

Water Closet

LATE.

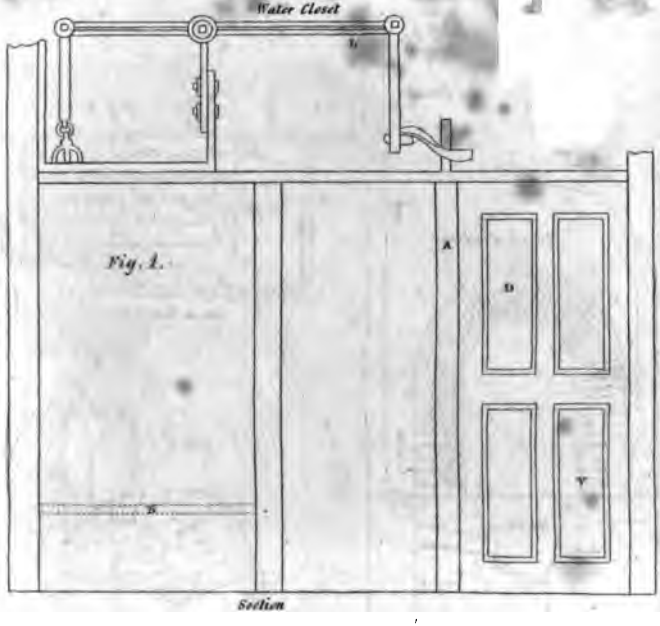


Fig. 1.

Section

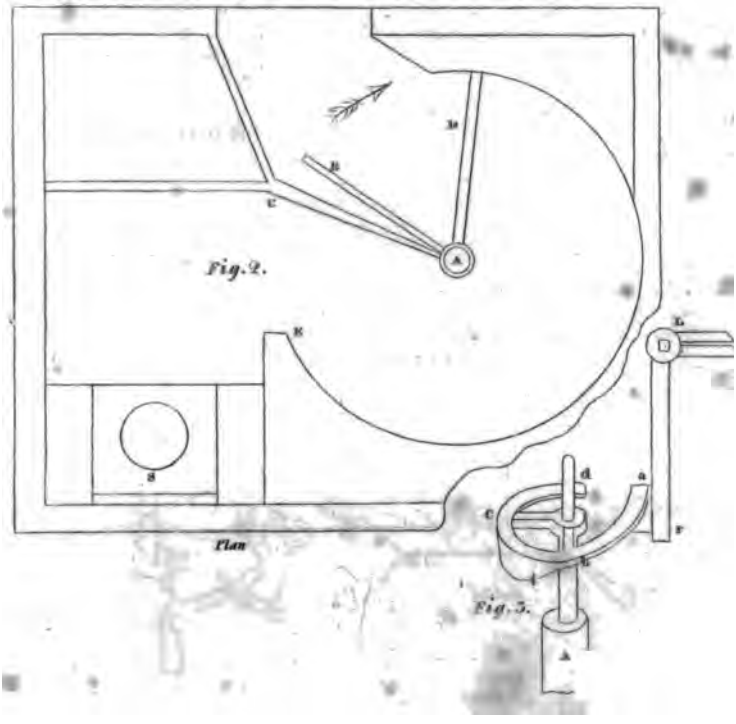
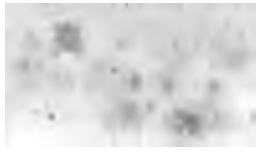


Fig. 2.

Plan

Fig. 3.



to give a general notion of its principal peculiarities in structure and arrangement, referring for minuter particulars to the volume itself, which is enriched with engravings from the hands of Mr Lowry. *

The Infirmary was built or begun during the year 1807. The committee appointed to manage the erection of it had advertised for plans, but none of those sent in were adopted, and the committee themselves at last undertook the task of forming a plan, and caused a model to be prepared accordingly, upon a large scale, which was found of great use during the progress of the work. The conditions pointed out by the advertisements were, that the building should be of stone, that it should contain fever wards, having a separate entrance, as far removed from the principal entrance as possible; that there should be convenient access to every side of the building; that the fever wards should contain twelve beds, and the whole eighty beds at least; and that, besides the usual conveniences of an hospital, it should have two day rooms for convalescent patients.

"The site of the Infirmary is on the south side of the town of Derby, at a short distance from the London road, and the building, from its elegance and magnitude, and the great taste with which its grounds are laid out, has rendered that entrance into the town particularly striking and agreeable. It consists of three stories, the basement story being a little sunk and surrounded by an area, and the middle or principal floor being somewhat elevated, and approached by steps and a portico, supported by four Doric pillars."

The base of the whole approaches to a square, and the edifice itself is nearly of a cubical form, the staircase to the upper story, and a spacious hall, being in the middle of the building. The roof of this central part is drawn up into a conical form, terminating in a dome, containing several windows which completely illuminate the hall, and within it is also an outlet for the escape of foul air, provided with a turncap, and communicating, by means of flues, with every apartment appropriated to the patients. The roof of the surrounding rooms is separated from that of the centre, and, to obviate the evils arising from snow and ice, the gutter which surrounds the

* The letters of reference to the plates are in some instances erroneous or wholly omitted; and we could have wished that the dimensions of the different apartments, as well as *scales* to the plans of apparatus, &c. had been inserted. These may still be added, even without a new edition of the letter-press. The height also of the different stories should be stated.

central part is covered with slates, elevated by wooden slips about two inches square, with a sufficient space also between the ends of the slates, for the water of the melted snow to drain off, an expedient which is found effectually to obviate the necessity of removing the snow.

The first or basement story contains the kitchen, laundry, cold and warm baths, with various domestic offices, and a stove-room on a peculiar construction, by which the whole edifice is supplied with warm air; a steam-engine of two horse power, with a very large boiler, and two spacious public baths, adjoining the vestibule. The second floor is devoted principally to the officers and servants of the establishment; but contains also two wards for sick persons, and six apartments for the reception of fever patients, which, with the corresponding portion of the upper story, are detached from the rest of the building, and have a separate entrance at the back, so as to render the fever department completely insulated. The upper story is devoted exclusively to patients; containing, besides general wards, two large rooms for convalescents, eight smaller apartments, appropriated to acute cases, and an operation room, with two adjoining wards for patients after operation.

The chief peculiarities by which this excellent institution is distinguished are, 1. The arrangements for warming and ventilating the building. 2. The warm-baths. 3. Various contrivances connected with the kitchen. 4. The apparatus for washing, and the laundry. 5. The water-closets.

1. The author's account of the ventilating and warming apparatus is premised by some observations on the general principles of what may be called, in the strictest sense, Domestic Economy; and there are likewise valuable remarks, in other parts of the volume, upon this important subject. He mentions, with just honour, as having taken the lead in this department of inquiry, the names of Franklin and Count Rumford; and complains, with apparent justice, of the great deficiency of architects in general in this department of the knowledge connected with their profession. He gives judicious directions as to the structure of houses, and the choice of situation; and states the superiority of brick over all other materials, as possessing greater durability as well as other advantages. But he dwells with particular approbation on the construction of buildings rendered fire-proof by the substitution of iron for wood; and mentions several examples of large buildings so constructed: among others a mill, erected in 1792, by Mr Strutt of Derby, which was originally 115 feet long by 30 wide, and six stories high, and has since been much enlarged.

"This subject," he adds, "has hitherto received so small a share of attention, that it is probable the historians of the next century may instance our building houses that may be burnt down, as a proof of our little progress in civilization, just as we now do the practice of former times, when houses were warmed by making fires in the middle of the rooms. Were the Derbyshire Infirmary now to be erected, it would probably be done without any wood being used in its construction, and without even iron pillars and beams." p. 8. —"The greatest defect, however, in the construction of dwelling-houses, public buildings, and manufactories, is observable, not so much in the materials of which they are constructed, as in the means of warming and ventilating them. Notwithstanding the boasted comforts of an Englishman's fireside, we see it accompanied with evils which loudly call for remedy. The common construction of fire-places, and the means of admitting air into the rooms, is quite sufficient to convince us that these principles have never been investigated in a philosophical point of view. When a house is built, a tunnel is made from each room, for the escape of smoke and vapour, the greatest part of which ought to be consumed. This is also a channel for the escape of the air of the room, which cannot be replaced, but by the cold air from the atmosphere; for the entrance of which no provision is made, except by the accidental crevices formed by the shrinking of the wood, forming the doors and windows. The evils resulting from these defects are, *first*, those sitting before a good fire are scorched on one side, and chilled by the cold air on the other: *secondly*, the cold air entering the chimney, without passing through the fire, destroys its draughts, and renders the combustion of the fuel so imperfect, that a considerable portion passes away unburned, or comes into the room in the form of smoke, producing the greatest domestic evil. That which goes out of the top of the chimney annoys the neighbourhood; and that which adheres to its sides would soon entirely stop the chimney-funnel, if not removed by means, in the greatest degree degrading to human nature." pp. 8, 9.

The usual structure of kitchens is characterized by the author as equally preposterous and unappropriate; and the mode in which clothes are commonly washed and prepared for use is not less susceptible of improvement. The main objection to all the methods of heating generally in use is, that the *radiant* heat alone is taken advantage of; and the remedy is to render the air itself the vehicle of warmth, a point on which this volume contains a great deal of useful disquisition. It is justly remarked, that a supply of fresh air is necessary to warm-blooded animals, for the purpose of equalizing their temperature as well as for respiration; and the author points out forcibly the advantage to be derived from the steady temperature of the

earth itself, in securing this great source of health and domestic comfort.

"At a very little depth below the surface in all countries, the earth is of the average temperature of the climate, as may be ascertained by the temperature of springs. It will hence appear, that, if the air which is requisite to supply a house in the winter of cold countries, were made to pass along a subterraneous cavity, it would become considerably warmed. It has been found by experiment, that a passage of 200 feet in length has had the effect of warming the air of the atmosphere passing through it, to much above the arithmetical mean, between the outer air and that of the earth. Such a provision, aided by the power of two turncaps, (as will presently be shown,) would be the means of increasing the comfort of dwellings in countries where severe long winters are experienced, and the same advantages would apply to the cooling of apartments in hot countries. The air, which is sometimes heated to 100°, might easily be cooled down to 80°, by passing through a tunnel at a considerable depth." pp. 56-7.

The warm air stoves in the Derbyshire Infirmary, and the system of flues for ventilation and heating, connected with them, are constructed on a principle invented by Mr Strutt in the year 1792, and brought to the test of experience by repeated trials in other buildings, before its application to this institution. The structure of the stove, we think, is admirable. It occupies a small room in the basement story of the building, and is supplied with air from below, by a subterraneous channel or culvert communicating with the open air by means of a turncap, the opening of which is always turned towards the wind by a vane: while the turncap on the summit of the building, which may be considered as the opposite extremity of the ventilating tubes, has a contrary direction given to it by similar means. The cold air flue, in the Derbyshire Infirmary, is about four feet square,* its length seventy yards, and when the thermometer in the shade in the outer air stood at 80°; the current, after passing through the flue, was found, where it entered the stove-room, to be 60°, and was of sufficient force to blow out a lighted candle.

The stove, which we shall now briefly describe, is placed near the centre of the building, immediately over the orifice of the

* The section of this flue should be such, as to present the greatest possible internal surface, and should, therefore, be "a long parallelogram, the length at least three times the breadth," and for a corresponding reason, the section of the *hot* air flue should be a circle. Cold air flues should be made of the best conductors of heat, and those for hot air of the worst.

culvert. The detail of its construction requires the illustration of plates; but the section (Plate I. fig. 1.) will probably render its more prominent features sufficiently intelligible. Immediately above the fire-place, there is a hollow cockle, or receiver, made of iron and of large capacity, within which the smoke and vapour of the fuel circulate, before they escape downwards into the chimney. This cockle is surrounded on the outside, at the distance of eight inches, with a casing of brick traversed by numerous openings, each of which is provided with a tube of sheet iron or earthenware, reaching to within three-fourths of an inch of the iron cockle, and serving to bring the outer air into closer contact with its heated surface; * from whence it is conveyed to a large air chamber above, and thence, by an appropriate system of flues, vertical and horizontal, to all parts of the building. The horizontal flues are formed of slates, closely jointed with cement at the corners and ends:—If the flues are to be under ground, and horizontal, they ought to be double, with a space for air between, but if vertical, rolled iron will answer very well. The openings of the flues into the apartments are all provided with registers, which are moveable only by means of a key kept apart for that purpose. The middle story of the building is also traversed vertically, by two funnels, (besides the main flue leading from the warm air stove,) one of which commences on this middle floor, with a sliding door which may be opened to different degrees, and terminates in one of the horizontal hot air flues in the story above. This allows the escape of any excess of hot air not required in the uppermost story, and prevents the stoppage of the current of air which otherwise would very soon allow the cockle to become red hot, and thus to be rapidly destroyed by oxidation. The second funnel opens also at its bottom, in the middle story, and terminating in the roof, ensures the complete ventilation of the hall.

In this arrangement, it is essential that the stove should be placed considerably below the rooms to be warmed, since the author states the velocity of the heated air to be as its temperature, and as the square root of the height; from 15 to 20, or even 30 feet, he considers as desirable, reckoning from the bottom of the air chamber upwards.

Mr Sylvester mentions, as a remarkable fact in the history

* These tubes form a more important part of the contrivance than might at first be imagined. The addition of tubes to a stove, in which, at first, there were only square openings in the partition surrounding the cockle, was found to produce double the effect, from the same quantity of fuel.

of this invention, that, although it had been used in the cotton-mills of Messrs Strutt and Company, as early as 1792, it never was noticed in any publication. He describes also portable stoves on the same principle, which must be very convenient in private houses, and refers to the Pauper Lunatic Asylum at Wakefield, * the new gaol at Maidstone, the North Staffordshire Infirmary, and the Nottingham Lunatic Asylum, as exemplifying, on a large scale, the success of the plan, although, in some of these instances, the omission of proper flues, in the original construction of the buildings, has prevented its complete efficacy. The church of Leek, in Staffordshire, affords an example of its successful application to places of public worship.

Subjoined to this account is a comparative statement of the effects of the warm air stove, and of those produced by steam, as a vehicle of heat; the facts upon the latter subject are taken from the work of Mr Buchanan, and the author deduces from his calculations, that, with equal quantities of fuel, the stove has the advantage, in the proportion of more than six to one. This great superiority, arising in part from the difference between the specific heat of air and water, but principally, perhaps, from the much greater loss of temperature in the conveyance of steam than in that of warm air, and the great quantity of heat, which, of necessity, passes off in the hot water, and in uncondensed steam.

2. *The Baths.*—Besides the baths on a small scale, for the use of the patients in the Infirmary, there are, as already stated, two of large dimensions, situate near the main entrance of the building, and accessible to the public; which produce a considerable revenue to the charity. They are both warmed by steam, and are kept constantly, one at a temperature of 84°, the other at 92°. The extent of each is an area of 162 square feet at the bottom, and the content is 810 cubic feet, or 4860 gallons of water. A small stream of cold water is constantly running into them during the day, and they are heated by means of a steam pipe, one inch in diameter, from the boiler of the steam-engine, which terminates in a larger pipe of cast-iron four inches in diameter, carried quite round the bottom of the bath, and concealed in a recess of the wall, which is covered by

* In this institution, "when the stoves are in full action, the air, on the average, moves with the velocity of five feet in a second: the area of each of the main flues is 12 feet, which gives 120 cubic feet for the quantity which passes through the house in every second, and, supposing the whole cubic contents to be 400,000 cubic feet, the whole of the air will be changed in a little less than every hour." p. 59.

a perforated stone plinth, so contrived as to allow the water to circulate freely all round the steam pipe. The sides of the baths are coated with glazed tiles; and wood being inadmissible, from the constant dampness of the place, the doors are formed of very large slates, the jambs of wood plated with copper, and the window frames of iron faced with copper. The price charged for a single bath is only 2s., or 20s. for 20 tickets, transferable to members of the same family.

"If one of these baths were filled to the depth of five feet in water at 32°, and were required to be raised to the temperature of 96°, it would demand for that purpose 304 gallons of water in the form of steam, which will consume about 50 lbs. of Newcastle coal. This mass of water, if the door be kept closed, would cool in the course of 24 hours about 4°, and would require, to keep up the temperature, a daily supply of coal a little exceeding three pounds. If this water were entirely to be changed once in 14 days, by a given adjutage of the outlet and inlet, then the annual consumption of coal would be one ton; supposing the bath to be kept constantly up at 96° and the water to be supplied at 32°; but as this is less than the average temperature, this estimate will be quite sufficient. These are facts derived from experiments, by observing the times of cooling. The calculation for the fuel is taken from the economy of Bolton and Watt's steam-engines." p. 7.

The baths for the patients are likewise heated by steam, and there are two in the basement story, in distant quarters of the building, and one upon the upper floor. This facility of access to the warm baths, and the ease with which they are heated, we regard as points of considerable practical importance; for in most of the Infirmaries with which we are acquainted, the distance between the wards and the warm baths exposes the patient to injury from cold during the passage to them; and in many instances, the water is heated with so much difficulty and expence, as to render the frequent use of the hot bath extremely inconvenient.

The *Steam-engine*, the boiler of which affords the steam for the baths, is employed to work a forcing pump, by which a cistern at the top of the building is supplied with water; it gives motion also to a shaft communicating with the wash-house, which turns the washing machine. The engine is of one horse power, but the boiler of a size adapted to an engine of six horse power, in order to furnish steam in sufficient quantity for the baths, the kitchen, wash-house, and laundry, &c.

3. *The Kitchen, Cooking Apparatus, and Scullery*, are also furnished with some very ingenious contrivances. The general plan is the same with that of Count Rumford, and the detail

consists of stew-hearths, two roasters, one of which is an oven for bread, and a steaming apparatus of a new construction. The roaster also is in part new, the fire having no immediate action on the bottom of the oven, but the flame is made to pass over the sides back and top, and is taken off below, so that the bottom, usually the hottest part, is in this comparatively cool, and a current of hot air is forced to traverse the interior of the roaster, so as to carry off the disagreeable smell, and to give the brown colour of roasted meat to the surface. The *scullery* adjacent to the kitchen contains three boilers heated by steam, two of them occasionally used for making soup, the other solely for preparing milk porridge; the milk being heated by a current of steam introduced into it, and regulated by a stopcock with a graduated scale and index. The temperature is by this method never quite so high as 212°, but this is found sufficient to effect the union of the oatmeal with the milk, and is freed from the risk of burning, which produces "the odour under which the porridge is said to be *bishoped*." There is also in the scullery a vessel that furnishes a constant supply of warm water, an article of the first necessity in the management of the sick, and its construction is so ingenious, that we shall describe it in detail, according to the latest improvements of Mr Strutt, the inventor. AB (Figure 2, Plate I.) is a section of a cylindrical vessel of cast-iron, 24 inches in diameter, and 14 inches deep within; C is a reservoir of cold water, the bottom of which is higher than the top of the cylinder, and which is connected with the latter, by the open tube DE. From the top of the cylinder, a pipe F is carried, as high as the top of the reservoir, terminating in a funnel, to obviate the effects of undulation, the cylinder being thus rendered as it were a part of the reservoir, will be always full, so long as any water remains in the latter. Within the cylinder AB are two smaller cast-iron cylinders, G and H, each two inches deep, and separated by means of the pipe I, to the distance of two inches, the lowermost being supported on three legs. The pipe K connects the internal cylinder G with the steam boiler, and the pipe L, from the lower cylinder H, rises to the level of its top, and is arched like a syphon at the end L. M is a pipe with a cock which passes through the side of the cylinder AB, its funnel-shaped mouth within being about half an inch from the top, at the centre.

If, now, the exterior cylinder be full of cold water, (the vessels G and H being empty,) and steam be introduced through the pipe K, the vessel G will be heated, and the cold water adjacent to it being warmed, will ascend to the top of the cylinder AB, the condensed steam passing into the lower vessel H, which

also, with the cold water adjacent to it, will be heated, till both of the interior cylinders are boiling hot. The boiling water is then driven off, through the syphon L, and is followed by steam, which must be shut off by a stopcock. The heated water may be drawn off at any time from the pipe M, and the boiling distilled water issuing from L is applicable to various useful purposes. The reservoir AB is surrounded by non-conducting substances, and inclosed in a case, so as to part with its temperature very slowly, and the whole apparatus being of iron, and without any moveable parts, can hardly be deranged by use if well put together.

4. *The Wash-house and Laundry.*—As the process of washing is usually conducted, the laundress is immersed in steam and offensive vapour, and exposed occasionally to large fires, while the labour of her occupation is very severe. In the Derby Infirmary, on the contrary, the laundress is completely shut off from the stoves and grates; the fire-places being under ground, and in a separate apartment; and the manual labour is considerably diminished by means of a very simple machine, introduced by Mr Strutt, resembling that in common use among bleachers, which is set in motion by the steam-engine. A B (Plate I. fig. 3.) is a cistern of wood in which the cylinder C revolves. The interior of this cylinder is divided into four compartments, by planes at right angles with each other, and these planes, as well as the cylindrical surface, are perforated with numerous holes; each compartment having also a larger opening, with a small door at H. In the middle of the wash-house is a large boiler, containing 100 gallons, heated by steam, which is brought in clothed pipes from the steam-engine. Two sides of the room are provided with stone benches; a large table stands near the machine; and there are also wooden-tubs for washing by hand occasionally. The linen is rubbed with soap the night before washing; and cold water having been introduced into the vessel A B, so as to rise to the height of four or five inches in the cylinder. The linen is put into the cylinder, and steam introduced into the vessel A B, until the water within is heated to the maximum, which is somewhat below the boiling point. The top D is then shut down, and the cylinder put in motion with such velocity as that the linen may be heard to *fall* from one side to the other of the cavities. In this way a charge of linen may be washed in less than half an hour, at a temperature which the hands of a laundress could not endure, and with much less injury than where the ordinary process is employed. The author mentions that considerable advantage in washing may be derived also from the cautious use of alkalies, both mild and caus-

tic; and he gives some good directions for preparing the latter. The clothes are sometimes boiled in the large boiler already mentioned, and after removal from the machine they are looked over and washed by hand in parts which require it.

Since the completion of the Derbyshire Infirmary, Mr Strutt has invented a machine for discharging the water from wet linen in a manner very superior to the common mode of wringing.

"The linen is placed in a square bag of strong sacking, kept open by wire rings; this bag is contained in a cast-iron box, which opens on one side to admit the linen, and then closes firmly. The interior surface of the box is grooved, to receive the water when pressed out. The pressure is applied by means of a sliding plate, which fits the box, and is forced against the end of the bag by a rack and pinion, and turned by a winch. The sides of the box prevent the bag from becoming wider; the pressure applied has therefore the effect of shortening the bag, till all the water is pressed out into the grooves. By this machine, the clothes are squeezed much drier than by the common method; and the pressure upon all parts being uniform, less injury is done to the texture of the linen." p. 61.

The mangle also has been made to move by machinery, which is a great saving of labour.

The *Laundry* is a large room in one of the wings of the basement story, with an adjoining apartment containing a warm air stove, such as we have already described, with a hot air chamber for drying the clothes, the fire-place being quite detached both from the laundry and the drying-room. In this stove the top of the *cockle* over the fire-place is flat, and a square chamber placed above it opens into the laundry, and is used for heating smoothing-irons. The air, which is the vehicle of heat, is introduced from without, through a long subterraneous channel, and after passing over the heated cockle into the large air chamber above it, enters *at the top* into a spacious closet in which the linen is placed to dry on horses of a peculiar construction, which slide in and out on grooved wheels running upon iron ribs. As the hot air cools, it descends loaded with the vapour of the linen, and is forced out below into a funnel at the bottom of the closet, and thus affords the most effectual means of carrying off the moisture without the least expence of fuel. * The laundry being thus detached both from the fire-

* The hot-closet of the laundry serves also to keep linen dry, and is occasionally employed to dry and air the beds.

places and the drying-room, can obviously be kept cool in summer, and in winter heated to any required temperature. Accidents from fire, and injury to the linen, are completely obviated; dust is excluded, and the current of heated *fresh* air, which passes over the linen, maintains its whiteness; the exclusion of light being, for this last object, very advantageous.

Some valuable tables and formulæ are subjoined to this account for calculating the proportion between the quantity of water to be expelled from the washed linen, and that of the fuel by which the heat is supplied. These calculations are founded upon the principles of Mr Dalton of Manchester, who has himself given an elaborate table shewing the force of aqueous vapour, the quantity contained in a cubic foot of space, and the depth of water evaporated in an hour, for every degree of temperature from 40° to 325°. But this subject falls more properly within the department of the chemist than of the medical inquirer.

5. *The Water-closets.*—"In most of the present public hospitals, nothing is more conspicuously bad than the water-closets: the Derbyshire Infirmary is, however, a striking exception to the contrary. They are so contrived, that the person who enters them, by the action of the door, and without any attention on his part, expels all the foul air; which is at the same time replaced by the warm fresh air of the house, and in returning, leaves the fresh air in its place, whilst, by the same action of the door, the basin is washed in the usual manner."

This invention was made by Mr Strutt on purpose for the Infirmary; and the building contains no fewer than seven water-closets, two in the middle story, and five in the third, all of the same excellent construction. D (Plate II. fig. 1 & 2) is the door to the water-closet, revolving on the arbour A, in a cylindrical cavity, which it fits so closely as to press the air before it in its revolution. B is a bar of wood inserted into the arbour at about four feet from the ground, between which bar and the door, the person who enters places himself, and having entered, the door arrives at the partition C, and the end of the bar at the point E. There is an opening in the closet at the top, over the point S, through which the air is expelled by the revolution of the door on entrance; and one of the lower pannels, V, of the door itself acts as a valve during the returning motion, and opening inwards lets in a supply of fresh air. The valves connected with the seat are on the construction invented by Bramah, and are set in motion by a wheel attached to the upper part of the arbour A, so ingeniously contrived, that on

the return of the door the pan is always cleared, without any attention from the person who had entered. *

The bedsteads throughout the wards are of wrought iron; the sacking bottom being attached to the frame by means of iron slips, which are pressed upon the edges of the sacking in the manner of a smith's vice. And Mr Strutt has added to his other benevolent inventions that of a moveable bed, which admits of being turned into various positions without distressing the patients. In Plate I. (figures 4, 5, and 6,) *gg* and *hh* represent the side bars to which the sacking bottom is attached. A is the point of suspension by which the head of the bed is supported in the pillar A P M; the motion of revolution being given by a wheel and rack work, checked in any required position by the catch *k*. The bed is lodged upon the surface S, which, by the motion of the rack work, can be thrown more or less out of the horizontal position, while it is kept tight, and at a constant distance from the sides, by means of its double attachment, on each side, to the bars *g* and *h*.

The book concludes with a brief description of the Pauper Lunatic Asylum at Wakefield in Yorkshire, as not only confirming what has been detailed respecting the Derbyshire Infirmary, but shewing abundantly the progressive improvement that may be expected if the useful inventions above described become more extended.

A detailed description of the Wakefield Asylum is now preparing for publication, and we may possibly, in a future number, give our readers some account of that excellent institution.

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* This contrivance is, in detail, as follows: (See Fig. 3, Plate II.) The part *a b* of the wheel *a b c d* is a steel spring, bending upwards when not pressed upon. L is a lever connected with the valve of the seat, and is depressed by pushing down the roller *r*. A is the arbour on which the door revolves. The motion of entrance being in the direction *d c b a*, the roller *r* runs along the *upper* surface of the wheel and depresses the spring, from the end of which it escapes when the door has completed its revolution. The spring then returning to its original position passes *over* the roller *r*, and the movement outwards through *b* to *c*, depresses the roller by means of the protuberance *t*, and thus raises the valve connected with the opposite extremity to the lever. The roller, at the end of this outward motion, passes the end *d* of the wheel, and rises to the upper side of it, and so on in succession.

VI.

Surgical Essays. By Astley Cooper, F. R. S., Surgeon to Guy's Hospital, and Benjamin Travers, F. R. S. Surgeon to St Thomas's Hospital. Part II. 8vo. Longman, London; Constable, Edinburgh, 1819. pp. 239. With Eight Plates.

Compelled as we are, but too frequently, to wade through productions which give us nothing that is new, and not much that is worth the having, even of what is old, it is really refreshing to us to meet with a work of one of the masters of the art. The whole of what are modestly termed the "Essays" in this volume are from the pen of Mr Cooper; and, after struggling with the disgust excited by the inanity and common place truisms, which issue from our teeming press, under the name of Treatises, Observations, or Illustrations, and which are intended only as decorous substitutes for the cure-all lucubrations with which the columns of our daily papers are adorned, we cannot fail to dwell with complacency on the operations of one of those gifted minds, which seem destined to extend the boundaries of the science they cultivate. The most distinguished of the surgeons of our great London hospitals are teachers, and the improvements, which the experience acquired in those extensive receptacles of disease enables them to make in the healing art, become familiar to the students who press round them for instruction, and may, by communication from man to man, form ultimately part of the common stock of the profession. But we are afraid that they may not be transmitted unaltered, that they may be corrupted by diffusion, so that each succeeding individual who receives them may have them less pure; as a circle, caused by a stone thrown into a lake, is narrow and well marked at first, but, as it gradually extends, becomes less and less elevated, and at length sinks to the level of the surrounding water. For reasons of this nature, we think it the duty of the medical men connected with our great institutions to give to the public, from time to time, the results of their experience, in a form similar to that of the work before us. All the members of the profession are thus put in immediate possession of the opinions, pure and uncorrupted, of those who are most likely to acquire correct ones. By such works as these "Essays," and quarterly and clinical reports,

not only do we get the opinions of men of skill and reputation, but all the facts, and all the steps of the reasoning process, by which those opinions were attained, are detailed to us in their original raciness and vigour, we have the premises as well as the conclusion, and learn how to follow our teacher in the path of research. Whilst well made books (to adopt French phraseology) teach us facts, works of the nature of those we have mentioned do so too; but, besides, they shew us how to find them out for ourselves. Amongst public teachers of surgery, none rank higher than Mr Cooper; besides the head to plan and the hand to execute, both of which he possesses in an eminent degree, he has so much amenity of manner and benevolence of disposition, that, whilst he is respected as a teacher he is beloved as a man. Those who were once his pupils, remain through life his friends; and hence he is enabled to enrich his lectures, and has enriched this volume with important facts and observations, voluntarily tendered by some of the most eminent surgeons in all parts of England. Those to whom the author is personally known will expect much from the work, and those who know him by character only will be inclined to do so too: we shall endeavour to shew both classes of persons, that a careful perusal of it will not disappoint them.

In this volume are comprised three Essays, in the first of which the subject of dislocation of the femur is continued from the former part of the work, and fractures of the neck of the thigh-bone, fractures and luxations of the knee, and luxations of the ancle and tarsal bones, are treated of. In the second, we have a description of unnatural apertures in the urethra, and of an ingenious and successful method of curing them; whilst, in the third, are contained some very ingenious speculations on the formation of encysted tumours, with useful remarks on the mode of their extirpation.

In his remarks on dislocations, the author mentions a curious circumstance, of which he was informed by Mr Cline, "that Mr Samuel Sharpe, who was surgeon to Guy's Hospital, and had a large share of practice in this metropolis, did not believe that a dislocation of the thigh-bone ever occurred." This is certainly a singular fact, but we are not disposed to deduce from it the same inference which Mr Cooper seems to do, when he says,

"It is really highly gratifying to observe the difference of knowledge in the profession at the present period, when compared with that of fifty years ago. What should we think of a surgeon in the metropolis in the present day, with all his opportunities of seeing

disease in the large hospitals of this town, who doubted the existence of a dislocation of the thigh, when we find our *provincial* surgeons immediately detect the nature of these injuries, and directly succeed in their attempts to reduce them? Let them never forget, however, that it is to their knowledge of anatomy that they are indebted for this superiority, and, more especially, to morbid anatomy."

We certainly should think that surgery had taken enormous strides indeed, did we regard the scepticism of Mr Sharpe, and the familiar knowledge displayed by modern surgeons with respect to these formidable accidents, as the measure of its progress; but we cannot think so meanly of our British practitioners of half a century back, as to suppose them ignorant of an injury well known to Hippocrates three thousand years ago, and of which all the varieties are described in the compendium of Celsus. We feel disposed to class these sceptical doubts of Mr Sharpe with those anomalies of the human intellect which occasionally occur to embarrass moralists and metaphysicians; with Dr Johnson's fondness for Fanny Phantom, and the belief of an eminent artist in the reveries of Emmanuel Swedenburgh. The comparison between metropolitan and provincial surgeons implied in the above quotation, may be allowable enough from Mr Cooper,—but it has been occasionally our lot to hear it from quarters whence it did not proceed with quite so good a grace.

We cannot refrain from referring to the unadorned but impressive picture of the evils resulting from unreduced dislocation of the femur, to be found in the second page, that our readers may be aware of the degree of gratitude due to those who, by sedulous attention, improve the art they profess, and instead of hoarding like misers their intellectual treasures, give them forth to the world, and do all in their power to make their fellows as enlightened and effective labourers as themselves. Much that gifted spirits possess they *cannot* communicate, but, in detailing to others their opinions, and the steps by which they attained them, they give all that *man* is able to bestow.

All that this volume contains on dislocations of the femur may be considered as merely supplementary to the valuable matter on the same subject, which will be found in the preceding one. Eleven cases are here detailed. In seven of these the bone was thrown on to the dorsum ilii; in three into the ischiatic notch; and in one into the foramen ovale. We are not informed whether Mr C. be disposed to consider the ratio expressed by these numbers as that of the general occurrence of these several accidents.

There will be found an able and elaborate account of Fracture

of the Neck of the Thigh-bone. This formidable accident is of two kinds, viz. within, or external to, the capsular ligament; and this distinction, according to Mr C., it is most important to keep in view; the former being, so far as the union of the bone is concerned, entirely irremediable; whilst, in the latter, under favourable circumstances of treatment and constitution, an osseous junction may be confidently expected. It will, perhaps, be in the remembrance of most of our readers, that some controversy on the former point arose between our author and M. Roux, one of the surgeons of La Charité in Paris; Mr C. advocating the opinion which we have attributed to him, whilst M. R. asserted that bony union might take place even though the fracture was within the ligament. This opinion is not peculiar to M. Roux amongst French surgeons; many able men of that country, as the justly celebrated Boyer and others, expressing a similar sentiment most unequivocally, and appealing to preparations in the museum de l'Ecole de Medicine, in proof of its accuracy.* Those preparations were examined by Mr Cross, author of a very sensible little book, entitled Sketches of the Medical Schools of Paris, but without conviction. We too have seen them, and our opinion of their value, as evidence on the point in dispute, coincides pretty nearly with that of the gentleman above mentioned; but as we do not profess to have bestowed upon them so much attention as it is evident that he did, we prefer referring to his book, those who are desirous of ascertaining what light they throw on this very important question. A very able advocate of Mr Cooper's doctrine has started forth in the person of Mr Collis, "who has published in the Dublin Hospital Reports the dissection of several of these accidents, and found a similar want of *ossific* union in the fracture within the ligament." Our author draws, too, a confirmation of his opinion from the following *a priori* reasons: in the first place, by the contraction of the muscles the fractured cervix is prevented from being in apposition with the head of the bone; secondly, even where the length of the limb is preserved, the abundant secretion of serous synovia into the untorn capsular ligament, hinders that degree of pressure of one bone upon another, which seems necessary for supporting the inflammation required for the production of callus; and, again, it is conceived, that the head of the bone thus fractured, deriving its nourishment only from the few vessels which pass along the ligamentum teres, is scarcely capable of assuming such an action as the formation of a bony union demands. Three experiments are related,

* Since this review was drawn up, a case has come to our hands, which will be found in the present number, at p. 212.

which are supposed to illustrate this reasoning. In a rabbit, and likewise in a dog, the neck of the thigh-bone was broken transversely, and on the animals being killed some weeks after, no bony union was discovered. In another dog the neck and head of the same bone were divided longitudinally, and when the animal was killed twenty-nine days after "the head and neck of the bone which had been longitudinally broken were united; but the neck was joined by a larger quantity of *ossific* deposit than that which joined the separated portions of the head of the bone."

We believe we shall not be accused of a disposition to underrate the talents of Mr Cooper, or of those gentlemen who have declared themselves partisans of his opinion, yet we do not hesitate to say, that it appears somewhat premature to consider it as an axiom in surgery, that bony union does not take place in fractures of the neck of the thigh-bone within the capsular ligament. Our belief is with Mr Cooper, but we cannot overlook the distinguished name of Boyer, nor even the certainly not inconsiderable talent and information of M. Roux and others, which are thrown into the opposite scale. Mr Cross was not convinced by the preparations in the museum, nor Mr Cooper by one which M. Roux sent to him; but others have been convinced. Mr Cooper himself possesses too philosophic a mind, to lay much stress upon *a priori* reasoning; and the confirmation of that reasoning from the experiments performed on brutes, is liable to one important objection,—that no means could in this case be attempted to furnish that apposition and pressure which he acknowledges are necessary to procure the union of a broken bone. He will probably himself allow, that had the transverse fractures been made externally to the ligament, the result, so far as the union of the bone was concerned, might have been precisely the same. Whilst we *think* as the author does with respect to the matter, we yet deem it more prudent to regard it as a disputed point in pathology, subject to further investigation. For an excellent account of the diagnostic marks, by which fracture within the ligament may be distinguished from fracture without and from luxation, as also for luxations of the knee, the reader is referred to the work itself. The author mentions an instance in which a surgeon suffered a loss of reputation, by promising too largely in a case of internal fracture, and avails himself of this opportunity of delivering a moral lecture to the younger members of the profession, on the uselessness and danger of quitting the sober path of induction, for the wild mazes of conjecture.

Mr Cooper is a most indefatigable person; he is really a matter-of-fact sort of man in the best sense of the phrase. He will

neither receive himself, nor give to his readers, any thing on supposition or hypothesis. Facts and experiments only will satisfy him. He introduces the subject of fractures of the knee-joint, by a series of experiments on those of the patella, from which experiments the logical inference is, that the union is ligamentous, *from want of apposition between the disjoined portions of bone*. Such an union was the result of all his experiments, whether the fracture were transverse or perpendicular, excepting the following.

"I divided the patella longitudinally in a dog, but took care that the division should not extend into the tendon above, or to the ligament below it, so that there should be no separation of the two portions. I examined it three weeks after and found it united, no separation existing between the two portions." He then subjoins in a note:—"The bone was under maceration found united in part by bone, and in part by cartilage, not yet completely ossified."

The experiments are well planned, so that the whole series of changes from the first effusion of adhesive matter, to the formation of perfect ligament, is clearly displayed.

We have rarely, indeed, found so much valuable information condensed into a small compass, as in that part of these Essays which treats of Fractures of the Knee-joint. The experiments just alluded to, ten in number; fractures of the patella transverse, perpendicular and compound; a singular instance of ulceration, extending through the ligamentous junction of a fractured patella, and ultimately destroying life; oblique fractures of the condyles of the femur into the joint; fracture of the body of the femur above the condyles; oblique fractures of the head of the tibia extending into the joint; similar fractures not so extending; are all comprised within twenty pages, the accidents being illustrated by valuable cases. A tyro in book-making would have formed a respectable octavo out of such materials, whilst under the hands of a proficient in that line, they would have swollen into a goodly quarto.

After premising on the structure of the ancle-joint some observations, for the accuracy of which the author's high character as an anatomist is a sufficient guarantee, and bestowing on simple dislocations of that joint all the attention so important a subject deserved, Mr Cooper furnishes us with a very excellent and elaborate treatise on its compound dislocations. This is a very valuable part of the book, and the one which the author has taken the most pains to elucidate by cases, derived not only from his own experience, but from that of a great number of intelligent and well informed practitioners in various parts of the country.

It is obvious, that, in these accidents, the tibia may be displac-

ed in the same directions as in simple dislocation, internally, externally, and forward, the only peculiarity of compound luxation being, that " the joint is laid open by a wound in the integuments and ligaments, opposite to the laceration of the skin, by which the synovia escapes, and through which the ends of the bone protrude." For an admirable account of the process of nature in repairing these injuries, our readers must consult the work: it will not disappoint them, and they will be gratified by being informed that they " do not lead to permanent anchylosis, for if passive motion be begun as soon as the parts, from cessation of pain and inflammation, will permit, motion will be restored, not always entirely, but with little diminution, *and the other parts of the tarsus will acquire such an extent of motion, as to render the deficiency in the mobility of the ancle-joint but little apparent.*"

The treatment of the injury, as recommended by the author, will be best understood from a perusal of the cases, which our limits do not admit of our transcribing. " The first question," he says, " which arises on this subject, is the following: *Is amputation generally necessary in compound dislocation of the ancle-joint?*" The answer is, as was to be expected, in the negative, and the following origin of such an answer displays, we think, the characteristic candour of the writer.

" The first circumstance which led me to doubt the true judgment of the opinion, which recommended an indiscriminate amputation of those injuries was this. I was, many years ago, going into the country with a friend of mine, and we met with a surgeon in our journey, who put this question, " What do you do in compound dislocations of the ancle-joint?" I do not recollect the reply, but he proceeded to say, I have had a case of compound dislocation of the ancle-joint under my care, in which I told the patient he must lose his limb. Not approving this advice, his friends sent for another surgeon, who said he thought he could save it. The patient placed himself under his care, and the man, he added, was recovering."

Under some circumstances, Mr Cooper is an advocate for sawing off the protruded ends of the bones. What these circumstances are, will be best understood from the following detail of those, under which he recommends the bones to be simply returned to their places.

" If the dislocation can be easily reduced, without sawing off the end of the bone; if it be not so obliquely broken, but that it remains firmly placed upon the astragalus when reduced; if the ends of the bone be not shattered, for then the small loose pieces of bone should be removed, and the surface of the bone be smoothed by the saw; if the patient be not excessively irritable, so as to occasion the muscles

to be thrown into violent spasmodic actions in the attempt at reduction, and which leads to subsequent displacement; when the limb has been reduced under such circumstances, the bones should be at once returned into their places, and by the adhesive inflammation the parts should be united; but rather than amputate the limb, *if the above circumstances were present,* I should certainly saw off the ends of the bone."

The words in italics should obviously be read, "if the above circumstances were not present," or "if the opposite circumstances were present." We may here be allowed to remark, in passing, that its style is by no means the best part of this work; that it is occasionally deficient in the most important quality of language either spoken or written,—perspicuity.

Even in desperate cases, one of which Mr Cooper relates, we may save the limb. Still cases occur in which we shall be obliged to amputate; and the following reasons for the adoption of this procedure are assigned: the advanced age of the patient; difficulty of reducing the bones; the shattered state of the tibia, astragalus, and os calcis; the dislocation being at the outer ancle; the bone being reduced but not remaining *in situ*; gangrene; excessive suppuration; extensive exfoliations; irritable state of the constitution; and great deformity. It is evident that some of these may rather lead us to saw off a portion of bone than to remove the limb. Mr Cooper informs us, that amputation does not always succeed; that a considerable number on whom the operation is performed for compound dislocation of the ancle, and compound fracture of the leg, nevertheless die. This is an interesting subject, and we regret that it is very lightly touched upon. Details as to the period after the accident, at which the operation was performed, &c. we might reasonably have expected, and they would have explained what is now very obscure.

There is one observation on mortification of the foot, consequent on these accidents, which surprised us not a little from so able and experienced a surgeon. We are told that amputation here "must be generally done when limits appear to be set to the extension of the mortification." Now, the experience of our army surgeons in the peninsular campaigns, and that of Larrey, have fully shewn that there is no necessity for scrupulosity on this score; nay, if we remember right, in some of the Baron's amputations for what he very properly terms "Gangrene Traumatique," the incision was made in parts verging to mortification, and yet the patients recovered. Mr C. makes an exception to his general rule in favour of mortification from injury to a blood-vessel. He might safely extend it to all cases of traumatic gangrene.

We are so much afraid of being seduced by the value of the contents of this volume to exceed the ordinary limits of our analyses, that we beg the reader to consult the work itself for observations on dislocations of the tarsal bones; and we advise that he should direct his attention to two cases of compound luxation of this kind, which were treated in St Thomas's Hospital by Mr H. Cline.

In the second short but valuable essay, we have some remarks, to the correctness of which we willingly bear testimony, on the abuse of bougies. The very sensible *strictures* on this subject are illustrated by a fatal case, to which we are convinced the faithful records of surgery might furnish many a parallel. With respect to the main subject of the essay, unnatural apertures in the urethra, attended with loss of substance, Mr C. relates the expedients he has had recourse to for healing them,—an object not very easy to attain. It struck him that they might possibly be closed by the contraction that takes place in the skin by the process of cicatrization. Successive sloughs and granulations were formed by the application of the nitrous acid on the edges of the fistulous opening. In one case, by repeated applications of the acid, a cure was obtained in almost nine months. In another the same object was attained by the application of the *taliacotian* principle, the deficiency being supplied by a portion of integument dissected from the scrotum. The relation of this case is well worthy of perusal.

The subject of the last essay is thus stated by the author:

"There are different species of encysted tumours in the body, but that to which at present I intend to confine my observations is the tumour which is situated just under the skin, and is so frequently seen upon the head, the face, and upon the back, and occasionally, but less frequently, under the skin upon other parts of the body."

This peculiar tumour he supposes to be an enlarged follicle incapable of discharging its contents from an obstruction of the orifice by which it opens on the surface of the skin: and we think the evidence adduced for this ingenious pathological speculation sufficiently decisive. He disapproves of the common mode of dissecting out these tumours whole; but recommends that they should be opened by a free incision, their contents discharged, and *then* that the cyst should be dissected out. There is a curious account of horns which sometimes grow from the ossified cysts, and a plate representing a very enormous growth of this kind on the head of a gardener.

It remains for us now to recommend this work to our professional brethren as highly worthy of a place in their shelves. It belongs to that select class of medical works of which reviews may shew the value, but cannot teach the contents.

PART III.

MEDICAL INTELLIGENCE.

On the 17th of January a paper of Dr Fergusson's was read before the Royal Society of Edinburgh, on the nature and properties of the marsh poison, as known under the titles of Marsh Miasmata and Malaria, wherein the author endeavoured to prove, from reference to the medical topography of different places in the south of Europe and the West Indies, that the universally received theories of aqueous and vegetable putrefaction, singly or combined, being the sources of this poison, was unfounded; that putrefaction under any shape had no effect in producing it; that it never emanated from water in bulk, however putrid; but is the product of a highly advanced stage of the drying process in absorbent soils that had previously and recently been saturated with water. The illustrations were principally taken from the countries where the author had served during the last twenty-five years, and exhibited a great variety of facts and observations in support of the opinions advanced. Other properties of the marsh poison, such as its adherence to, and attraction for, lofty umbrageous trees and rising grounds in the neighbourhood of swamps; its concentration in ravines and hollows; its absorption by passing over water; its rarefaction or dissolution by the sun's heat, and by regular currents of wind, were also pointed out and illustrated. In the course of his paper, the author, while treating of the effects of the marsh poison, was led to consider the yellow fever of the tropics, which he views as the extreme and most baleful product of the marsh poison; and he brought many facts and arguments, which he conceived incontestibly established the noncontagious nature of that dreadful malady. He concluded with some remarks on the mode of reception of the marsh poison into the human constitution, whether by the stomach, lungs, or skin; which last he seemed to regard as the most probable chan-

nel; an opinion which he supported by some curious illustrations taken from the History of the Plague of the Levant, and from a consideration of the peculiar dermoid idiosincrasies of the African or Creole negro.

We wish much to see a full developement of the views contained in this paper, many of which are both novel and important. When we recollect that it proceeded from the same pen as the essay on the Syphilis of Portugal, which first tended to direct the attention of professional men to an inquiry from which the most important results may be looked for, we confidently hope that the same spirit of investigation may be awakened to the no less interesting subject of marsh effluvia.

Appendix by Dr Abercrombie *to his Paper on the Pathology of the Intestinal Canal.—Part II.*

After that paper was printed, and while I was engaged in arranging materials for the third, *on diseases of the mucous membrane*, some doubts occurred to me in regard to one part of the doctrine which I have proposed. I allude to that part of it in which I have supposed peritonæal inflammation to be sometimes accompanied by diarrhœa, and which I have illustrated by the fatal case, (case 1st,) and by cases 2d and 3d, which terminated favourably. In case 1st there certainly was extensive peritonæal inflammation; but the doubt is, whether it was the primary disease; for circumstances have occurred to me which induce me to believe, that, in some cases of this kind, the primary inflammation is in the mucous membrane, and that the disease afterwards extends to the peritonæum. This appeared to be the course of the symptoms in case 13th; and I regret extremely that I have no account of the state of the mucous membrane in case 1st. It differed from case 13th, in the progress of the disease being so much more rapid, and the peritonæal inflammation so much more extensive; but this does not prove the nature of them to have been different. I shall afterwards have occasion to describe several cases of inflammation of the mucous membrane, from which it will appear that it frequently terminates by peritonæal inflammation, or by enteritis; but I am not acquainted with any case of this kind in which the disease was so rapid as in case 1st. I suspect, however, that case 2d was of this nature, and that it was arrested in its progress when the inflammation was beginning to affect the peritonæum. In case 3d, also, the disease was probably in the mucous membrane, and perhaps it was partially affected in case 8th, in which, however, the peritonæal inflammation seemed to be the prominent disease.

On this important subject I have received an interesting communication from my esteemed friend, Dr Alison, in which he expresses the same doubts in regard to some of my cases, and his suspicion that in several of them the primary disease was in the mucous mem-

brane. He mentions a case that occurred to him, in which "the pain was partial, and liable to severe exacerbations, not very severe in the intervals, and not the worse of the erect posture. There was some diarrhœa, great increase of the pain on the operation of a mild purgative, and the pulse, up to four hours before death, never got above 84. The inner membrane of the caput cœcum, and part of the colon, was very much inflamed, extensively ulcerated, and in some places gangrenous, and the intestine was nearly perforated in several places, but the peritonæum was scarcely at all affected." I shall not extend these remarks at present, farther than by proposing the diseases of the mucous membrane of the intestinal canal as a most interesting field of investigation. They occur both in an acute and chronic form,—may be seated in the stomach, and in any part of the intestine; and a careful examination of them promises most important results, in regard to many diseases of these organs, which are hitherto involved in much obscurity.

In attempting to distinguish the various modifications of intestinal inflammation, one form of it has been referred to, which I have conjectured to consist of inflammation confined to the peritonæal coat. To the observations made upon that subject, I find it necessary to add, that I do not consider them as applicable to every form of peritonæal inflammation; and particularly, that I did not mean to refer at all to the peritonitis of puerperal women, in which the symptoms are considerably different. I merely intended to describe a disease which has frequently occurred to me in practice, and which is generally to be considered as equally formidable with genuine enteritis, while it differs from it in the essential particulars which have been mentioned, the bowels being readily moved by mild medicines, the pain suffering remarkable remissions, the absence of vomiting, and the pulse being often less affected than in enteritis, especially in the early stages. From these deceitful characters it is a disease of much interest in a practical point of view, and the nature of it presents an important field of investigation, in which I have only proposed conjectures, to be established or overturned by more extended observation.

Connected with this subject there are various other important objects of inquiry, to one of which only I would at present allude very briefly. Whenever we find on dissection gangrene in the intestinal canal, we are in the habit of concluding that inflammation had preceded it. I have some doubts whether this be in all cases a correct inference. Gangrene is indeed a very frequent effect of inflammation, but it also arises from other causes. Without entering upon these causes in general, I submit the following remarkable example, which occurred to me lately.—A man aged 63 was suddenly seized with a deep seated pain in the right side of the pelvis, followed by a feeling of numbness in the right thigh and leg, with weakness, or partial paralysis of these parts. On the 5th day from the commencement of the pain, the extremity was observed to be swelled. The swelling began in the ancle, and extended rapidly upwards along

the leg and thigh. On the 6th day the whole extremity was very much swelled, without much change in the colour of the integuments. The swelling was throughout *emphysematous*, crackling in every part, and discharging, when punctured, much fetid gas, with a distinct whizzing noise, and a small quantity of dark fluid. At night the integuments had assumed in several places a dark livid colour, his countenance was depressed and anxious, and the pulse extremely feeble. He died early in the following morning. *Dissection.*—The right limb was of a dark gangrenous appearance, with some large vesicles containing a dark-coloured fluid. The muscles were universally black and gangrenous. The femoral artery being laid open and traced upwards, there was found in several places disease of its inner coat, which was thickened and soft, and in several places separated from the other coats, so that portions of it lay across the area of the vessel, like valves. This appearance occurred in several places in the upper third of the femoral; but the most remarkable was in the upper part of the external iliac; here the inner coat was separated for about an inch and a half, and the separated portion had fallen down into one irregular mass, which completely stopped the canal of the artery, as appeared from a firm coagulum of blood which was found above it. The aorta was in several places diseased on its inner surface, ulcerated, and the inner coat partially separated. In the right side of the pelvis several of the smaller vessels were ossified,—those in the left side were sound. The right side of the pelvis presented a dark gangrenous cavity, with much dark fluid, and ill conditioned pus; but this appearance was entirely on the outside of the peritonæum, all the intestines being healthy. On the left side all the parts were sound.

In this remarkable case there was loss of muscular action, followed by extensive gangrene, and both referable to the singular disease in the artery, obstructing the circulation. It is a curious subject of inquiry, whether the muscular action of the intestinal canal has any dependence on the circulation in the abdominal vessels, and whether interruption of this action, followed by gangrene, may arise from a cause of this kind, without inflammation. An affection is met with in old people, which differs in its phenomena from the ordinary cases both of inflammation and of ileus. There is a sudden and complete interruption of the action of the intestine, without any of those urgent symptoms which occur either in enteritis or in ileus;—the belly becomes distended, with little or no pain, and no tenderness. There is sometimes vomiting, but the pulse is little affected, and the whole appearance of the patient conveys no impression of active disease. But no medicine will go through the bowels, the patient dies in a few days, and we find, on dissection, extensive lividity and gangrene, though there had been no inflammatory symptom. I saw a case of this kind very lately, along with my friend Mr Whyte, in a lady aged 70, who died on the fourth day, without a single symptom indicating inflammation. Nearly the whole tract of the small intestine was distended, and of a dark livid colour; and a portion of the

ileum about two feet in length was perfectly black and gangrenous. The mesentery connected with this portion was also very dark. On no part of the canal was there any redness, or the slightest appearance of inflammatory exudation. The abdominal aorta was extensively diseased, its inner surface being in many places ulcerated, and the internal coat destroyed. At one place the blood had insinuated itself between the coats, so as to elevate them, for a considerable space, into a tumour which appeared externally: it was not a cavity like an aneurism, but a spongy fungous mass of a very dark colour, in which the natural appearance of the coats was entirely lost. This disease was very near the origin of the superior mesenteric artery; nothing unusual could be detected in the mesenteric itself. In other cases of this kind, after various strong medicines have been given, the bowels are moved fully, and after another day the patient dies, rather unexpectedly, when we are disposed to think that the disease (the obstruction of the bowels) has been removed.

I take this opportunity of correcting a typographical error, which materially affects the sense. In Case 13th of Part II. it is said, that the patient was seized with violent pain of the abdomen on the 13th of June;—it ought to have been the 19th.

On the Use of Nitre in Fever. By W. M. Ross, Surgeon, Leith.

In the months of January, February, and March, of the present year, an epidemic fever prevailed in some parts of Leith, differing from that which had made its appearance the preceding year, and which had swept away great numbers in the same neighbourhood. It was confined to the lower orders, inhabiting houses excluded from the free circulation of the atmospheric air, most of whom had been afflicted with the previous epidemic.

The fever appeared in a mixed form, commencing, in general, with symptoms of an inflammatory, and terminating in those of a typhoid nature.

In all cases which came under my observation the accession of the complaint was marked by a general anxiety and lassitude, which were succeeded by rigors and flushing, at first transient and alternating, but terminating in a continued pyrexia. The pulse was then strong and hard, the tongue white, accompanied with much thirst, and the urine very high-coloured.

In a short time, however, the tongue assumed a yellow and then a brown appearance; the pulse became quick, but still hard, and a gradual prostration of strength supervened. In this stage there was a great oppression at the precordium, particularly when pressed with the fingers. Some patients had considerable dyspnœa. In others diarrhœa was very troublesome.

On the seventh day the fever obtained its acme. In every case I was enabled to predict with the greatest certainty as to this crisis.

The debility which succeeded was accompanied by severe pains in the shoulders and wrists, which gradually abated with the renewal of

the patient's strength. Where a relapse occurred, and from inattention this was frequently the case, the fever, especially if there had been much diarrhœa and consequent debility, assumed the form of typhus mitior. In no instance was there any putrid tendency.

From the numerous cases I attended, I had ample opportunity of remarking the most suitable treatment of this epidemic. In general this was sufficiently simple. Where at the outset the inflammatory symptoms ran high I took away blood, not, however, to such an amount as might induce farther debility in the succeeding stage. Where there were much restlessness and cough I experienced good effects from opiates, and in a few cases from blisters. The employment of cold water by affusion was attended with the happiest consequences, generally producing a remission and abatement of the violence of the fever.

But I chiefly esteemed the nitras potassæ an invaluable remedy in this complaint.

The encomiums bestowed on this substance by Stahl are, in my opinion, justly merited, particularly as they regard its employment in febrile affections. If modern practice does not warrant the extent of that physician's praise, I must conceive the circumstance to arise entirely from the insufficient quantity given as a dose. The good effects of nitre will only be discovered by employing it liberally; and although attention and discrimination be required in such a practice, it will, I believe, be found in the above cases of great and general efficacy.

I usually ordered a liberal dose of this salt, suited to the strength and other circumstances of the patient, to be given in his ordinary drink about noon, at the time when inflammatory symptoms were beginning to subside, and a second dose in some warm fluid in the evening. About bed-time the patient generally perspired freely, and experienced a consequent abatement of the febrile action. This commonly procured a good night's rest. Superseding, in some instances, the necessity of cold affusion, I continued this practice till the seventh day with manifest advantage. Of this I am the more readily convinced, as in cases where I did not employ the nitre, the fever was more violent, and the succeeding debility proportionally great.

The beneficial effects of this substance I am inclined to attribute to the following circumstances:

1. By abating the febrile heat and commotion of the blood, the excessive irritation of the animal fluids in general is allayed, and a more equable distribution of them thereby promoted.

2. By promoting the insensible perspiration, and thence moderating the action of the extreme vessels.

3. By augmenting the urinary discharge, and consequently relieving the uneasiness produced by the retention and acrimony of that fluid.

I am quite aware that the employment of the nitras potassæ in fever, either as a refrigerant, diaphoretic, or diuretic, is no novelty in practice. Feeling, as I have done, its efficacy in all these characters, I submit these remarks, in the hope that the attention of practitioners may be directed towards the employment of a substance so abun-

dantly produced by nature, and which has not, in my opinion, been hitherto administered with sufficient liberality. There is caution, I know, required in its use, particularly where the previous habits of the patient have been irregular, or emaciated by disease. In such cases the objects we have in view may be too readily and freely promoted, or the medicine may be found to operate from its aperient qualities. But every practitioner is aware, that it is only from a patient and minute attention to such circumstances, that a successful practice is likely to result. I have only, in the mean time, to content myself with having expressed an *opinion*, which, if it be the mean of promoting future inquiry, I shall esteem the sentiment of Crato not distant from the truth:—"Regina vitæ et rerum omnium opinio est. Itaque ne falsitate implicemur primum ipsi elaborare debimus, ut verum atque rectum toto animo sequamur." *Montan. Præf. Cratoni.*

Case of Cholera, extracted from a Letter from JOHN WHITING, M. D.

HAVING been called, during the very hot weather of last harvest, to visit a man in the middle age of life, about eight o'clock in the morning, I found him in a most deplorable situation. On first sight he appeared to me to be labouring under tetanus in its most severe form and advanced stage; for his whole body was in a spasmodic state, and the energy of the system was quite exhausted. He complained, in a feeble tone of voice, that his head seemed to be girt round with a tight cord. His eyes were generally fixed and staring, the arms frequently stretched out, and the fingers, every now and then, had the appearance which I have more than once observed in children labouring under hydrocephalus, bent forward at an obtuse angle at the upper joint, but slightly curved backward from that point to their extremities. The cramp in his thighs and legs exceedingly tormented him. The diaphragm and muscles of respiration were so much affected that his breathing was rendered very laborious, and every now and then, as in tetanus, it was entirely arrested, violent pain being felt striking through the chest to the back at the same moment; and the patient's whole body was brought into the state of opisthotonos. The pulse, beating at the rate of about 100 in a minute, was extremely feeble, irregular, and intermitting every five or six strokes. All the secretions seemed stopped, the eye dull and dry, the tongue, although clean, yet free from a particle of saliva; the skin cold; his extremities felt as if they were those of a corpse. In short, such was his state, that when I first saw him I considered him a dying man, and thought that he could not live more than half an hour. Of course, I lost no time in learning the history of this poor man's disease, expecting fully to have my first view of the case corroborated by the relation of its cause and progress; but instead of this, was agreeably surprised at finding that all these tetanic symptoms were only an aggravated form of those spasms which generally

more or less accompany cholera morbus; for I learnt that the man, after returning from the harvest field the previous night, had eaten a hearty supper, went to bed well, and almost immediately fell into a sound sleep, from which he did not awake until about four o'clock in the morning, when he was seized with a violent pain in his bowels; the abdomen was much swollen, and he felt an urgent desire of going to stool. He discharged a large quantity of liquid feces;—soon afterwards he became sick. The purging and vomiting had recurred every ten minutes or quarter of an hour, till the time I saw him; and he had gradually sunk into the miserable state which I have described. This history at once suggested to me the methodus medendi, one which has never failed me in the treatment of this formidable disease. My aim is, to render the bile in the stomach and bowels less offensive, by diluting it largely by some watery fluid, as thin gruel, barley-water, or simply warm water. As some gruel was at hand, I made him drink about a pint of it; and with a view of lessening the formidable exhaustion of spasm, I added about half a wine glass of gin, and 30 drops of laudanum. After a few minutes he felt a little better; still, however, the sickness and spasms continued. I therefore, in about eight or ten minutes gave him another pint of gruel, and 30 more drops of laudanum. In a little time the spasms began to give way, his countenance improved, and his pulse rose and became regular, and he said he thought he should fall asleep had he not still cramp in his thighs. I waited about half an hour, hoping he would sleep; but finding him still restless, I gave him half a pint more of gruel. Soon after this he was so much better that I left the house, having directed his wife to give him half a pint of gruel every quarter of an hour. I had gone but a few steps when I was called back; and on going into the room I found that he had vomited nearly a wash-hand bason full of an olive green fluid. From that moment every symptom of the disease gave way. His countenance became natural, his skin warm, his pulse steady and full, and he said that a delightful glow pervaded his whole body, particularly his legs and thighs. After this he fell into a sound sleep; the vomiting never returned, the bowels became regular, the stools being rather more bilious than common; and in three or four days the man returned to his employment in the harvest field.

Swaffham, November 19, 1818.

Second Annual Report of Continued Fever in Leeds. By Adam Hunter, M. D. Physician to the House of Recovery.

The number admitted during the last twelve months is considerably less than in the preceding year; but, as the fever declined, the cases have become more anomalous in their character, and have assumed a greater variety of disconnected, and not unfrequently, more unsurmountable symptoms. This, I believe, usually happens when the prevailing influence of contagion has ceased, and when fever arises from cold, wet, or any other incidental circumstance.

The establishment, and extensive operation of the Vagrant Office, to which I alluded in the last report published in your Journal for April 1819, has, as was anticipated, proved highly beneficial in its

consequences. * I have this season to record a very small number of admissions from the lodging houses; nor has fever been so prevalent in the lanes and alleys adjoining those ci-devant receptacles of human wretchedness. The number of cases in the town bears a small proportion, in comparison of their relative population, with those received from the adjacent townships and villages. The Vagrant Office, to a certain extent, enables us to account for this rather unusual occurrence, but much must also be attributed to the prompt and vigorous measures pursued, for the checking of infection. When a patient is admitted, notice is given to a medical officer, termed an inspector, attached to the institution, who immediately visits the house from which the patient is brought, sees it thoroughly ventilated and fumigated, causes old furniture, clothes, &c. to be cleansed or destroyed, and the walls to be whitewashed if necessary. Such poor families as are unable to bear the expence are remunerated, and small additional premiums granted to those who distinguish themselves by a ready acquiescence and diligent perseverance in his orders. Thus, we seldom receive two patients at the same time, from any family in the town, though the individual cases in the street may be numerous; in the more distant townships and villages, where those measures cannot be so carefully attended to, it is not unusual to find a whole family down in fever at the same period.

Provisions, though in no extra abundance among the lower orders, have been good in quality; and the agency of want, as connected with fever, or even general disease, has been seen to operate in only a very few instances, in so few, indeed, as to warrant some doubt respecting the full extent of the studied misery in the tales of the time.

In the language of that revered father in physic, Sydenham, the constitution of the year has, on the whole, been favourable to frail mortality. No part of the season was particularly remarkable for any excess in the obituary, or any prevailing epidemic, while the small number of admissions made it less easy to seize upon any leading symptoms, which might constitute a real or apparent variety in the nature or species of the fever. The winter months, as in the preceding year, were mild and open, and the local determination which occurred in almost every well marked case when early attacked, readily yielded to the usual remedies. Those cases which proved fatal, as will be seen by the tables, were nearly all brought to the house in the second or third stage, and had generally signs of previous inflammation. They, not unfrequently, sunk into that low, lingering, uncomplaining state, so accurately noticed by Dr Cheyne,

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* During the last year, 1734 men, women, and children have been comfortably lodged for one night, and a small donation of from 3d. to 5s. given to the most necessitous. In the morning they are conveyed out of town. As a measure of police, it has perhaps been still more advantageous. The expence of the whole establishment for this period scarcely amounting to L. 150.

in his first valuable report of the Hardwicke Fever Hospital;* the facilities of dissection which he seems to have enjoyed, the want of which so many must regret, have also enabled him to assign the cause, and consequently improve the treatment. The crisis was not generally so complete as in the former year, and perhaps from this cause relapses were much more frequent.

The weather in January was unusually mild, there being little frost, and the thermometer seldom attaining the freezing point. February was also very mild at the commencement, with occasional snow and sleet showers towards the conclusion. March did differ much from the preceding month; there were considerable f of rain in the latter part of this month and beginning of Ap Scarlet fever, of the mildest kind, was pretty general during the win and spring, it also returned in autumn. The summer was fine, an although the heat and drought was considerable, the cases of f did not assume the same malignant appearance, so remarkable in former season. The cases of cholera morbus which occur were generally very severe, but by no means so universal as the autumn of 1818. The constitutional diathesis seemed pe liarly irritable in September; there were frequent transitions f general fever to severe local inflammation, which was overcome v difficulty, and in several instances proved fatal. As connected v this period, I may observe, that I have sometimes remarked, t cases recently admitted appeared to change their type, and assum certain uniformity or *prima facie* appearance with the other cases the same ward, whether this arises from the general atmospherical, febrile influence for the time, or in consequence of the air breathed in the ward, I shall not take upon me to determine. We had more than an usual number of small-pox cases during the season, one of which proved fatal, in none brought to the house had vaccination been performed. † The varioloid disease which has recently occasioned so much discussion, *et adhuc sub judice lis est*, made its appearance in Leeds. It was not, I believe, considered as identified with small-pox, by the generality of our practitioners. In only a few instances did it attack those previously vaccinated in a regular manner; in none, to my knowledge, did it terminate fatally. Intermittents are very rare in this district; I do not remember one case being brought to the hospital for the last two years, nor have I met a well marked instance in private practice.

I shall now proceed to the tables, which are yet by no means so complete as I could wish; in the particulars, however, which are stated, every attention has been paid to render them as accurate as possible. The last report ended with October 1818; I have, therefore, included the two remaining months of that year.

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* Dublin Hospital Reports, Vol. I. p. 30, 37.

† Cases of small-pox, when known as such, are not admissible, but they are brought in when under the influence of the primary fever.

TABLE I.—*Shews the Monthly Admissions; Deaths; Male and Female Patients; the aggregate Number in their Families; the Average Number of Days ill previous to Admission; while in the House; Total; the average Age, with the cases of Small-Pox and Scarlet Fever. In the calculations the fractions are not retained.*

1818-19 14 months.	Admissions.	Deaths.	Male.	Female.	No. in Families.	Average No. of days ill before admission.	Average No. of days in Hospital.	Total No. of days ill.	Average of Age.	Small-Pox.	Scarlet Fever.	The age and number affected. *Table* II. Age.	Number.
November	30	0	11	19	176	6	9	15	20		1	1to10	21
December	19	2	13	6	113	10	11	21	29	2	1	10–20	101
January	30	3	15	15	159	7	11	18	21	1	1	20–30	95
February	17	2	6	11	97	6	14	20	20	1	1	30–40	30
March	13	2	7	6	79	13	5	18	22		2	40–50	21
April	20	1	10	10	137	7	10	17	23	2		50–60	7
May	24	2	15	9	164	6	8	14	30			60–70	4
June	13	1	8	5	101	8	9	17	27			72	1
July	13	1	7	6	61	8	9	17	19	1	3		
August	11	0	4	7	74	9	11	20	22				
September	36	4	17	19	221	7	8	15	22		2		
October	37	3	21	16	218	9	10	19	25		2		
November	12	1	7	5	69	7	11	18	20				
December	5	0	3	2	32	11	11	22	19				
Total	280	22	144	136	1701 or 6 to 1	$7\frac{6}{14}$	$9\frac{11}{14}$	$17\frac{13}{14}$	$22\frac{11}{14}$	7	13		

TABLE III.—*Shews the Number from the different Townships, &c.*

	No.
Hunslet, - - -	55
Holbeck, - -	23
Beeston, - - -	3
Headingley, - -	3
Potter-Newton, and Chapel-Town,	18
Leeds, - - -	178
Of which there were soldiers -	6
Lodging-houses, - -	3
Workhouse, - - -	2

This Table will be better understood by referring to the last report, where the population is stated. The cases in Leeds were taken from 50 streets or lanes, averaging $3\frac{1}{2}$ to each; but a great majority came from 10 particular streets. The fever in Hunslet and Holbeck was more than usually prevalent. Those from Headingley were all of one family. Of the Potter-Newton cases, there were three from one family, and four from another.

Table IV.—The Fatal Cases.

onth.	Name.	Age.	Ill before admission.	Days in the hospital.	Died on the	No. in family.	Occupation.	Residence.	Rer
r. 7	Mary Knowles	18	4	12	16	4	Servant	Meadow Lane	Confluent s
9	John Tindale	27	12	19	31	5	Collier	Hunslet	Pectoral affe
n. 4	Samuel Potterfield	17	24	3	27		Soldier	Leeds	Moribund o
6	Elizabeth Bailey	22	5	6	11	3		Hunslet	Head.
21	James Schofield	26	5	9	14		Cropper	Beeston	Sore throat :
b. 9	Martha Wade	24	21	15	36	5		Marsh Lane	Chronic dise minal vis
18	Lydia Stead	16	4	1	5	5	Factory girl	Holbeck	Concussion
arch 7	William Gatfield	18	8	2	10	8		Leeds	Pleuritis.
12	Margaret Brown	37	24	1	25	5			In articulo or
pril 2	Hannah Clarke	20	16	21	37	6		Potter-Newton	Relapse.
ay 8	Thomas Town	20	7	13	20		Servant		Affection of
15	William Toothill	50	8	8	16	6		Leeds	Head and b
ne 21	Joseph Holmes	28	8	8	16	4	Labourer	Beeston	Case desper
ly 7	Ellen Morris	23	9	15	24	5		Leeds	Head.
ct. 19	Thomas Preistley	17	10	18	28	7	Prentice		Relapse ; he
20	Martha Bevers	14	8	2	10	9		Bowman Lane	Pain in the less.
21	Ann Tindale	14	3	18	21	6		Hunslet	Pain in the
23	Charles Riggall	22	24	20	44	5	Shopkeeper	Leeds	Head and th
r. 3	Ann Wilson	20	5	5	10	7	Factory	Meadow Lane	Stomach.
13	Ann Wilson	18	24	25	49	6		Water Lane	Relapse ; pe
30	Thomas Harrison	16	5	25	30	8		Leeds	Lungs and l.
ov. 30	Thomas Sunderland	16	3	3	6	4			Head.

I shall conclude this report, by stating a few additional remarks on one of the cases where dissection was permitted.

Lydia Stead, and her sister, were brought to the house on the same day, supposed to labour under scarlet fever. This was the case with the latter, but Lydia showed no symptoms of the disease. From her pulse being unusually slow, 64 in the minute, I was led to suspect some other mischief. On minute investigation, I found she had tumbled down a flight of stairs some few days before, which, for reasons best known to herself, she thought proper to conceal. She was stunned at the time, and had not been well since the accident. She died rather suddenly on the day after admission. I was so fortunate as obtain an examination of the body.

Dissection.—During the removal of the calvarium, a considerable quantity of blood, perhaps ℥v., escaped. The meningeal vessels were turgid, and a deep erubescence spread over the pia mater. On dividing the substance of the brain, the medullary part was every where spotted with blood. The ventricles contained no extraordinary quantity of fluid. The lungs were healthy. The contents of the abdomen

natural, save that some small calculi were found in the gall bladder; and the small intestines had had a general blush in one part, and a livid hue in another. The liver might perhaps be considered large; its texture was natural. The heart had a false polypus on either side.

To lose 22 out of 280, or 1 to $12\frac{7}{11}$, may be deemed a large proportion in comparison with some recent details. But, besides that regular continued fever is almost always more fatal, in proportion to the number of cases, than any general epidemic which appears in this country, seven of the above were either improper cases, or did not live twenty-four hours after admission. These laid aside, the number would be 1 to 18; while the stage and state in which others were admitted precluded all probable hope of recovery. As real utility, however, is and ought to be the object of this and every similar institution, such considerations must sink before it, except in so far as to show the necessity of early admission to secure the full benefit of the hospital, or as they may prove a stimulus to renewed exertion or more improved treatment.

Those who wish to assign one particular viscus as the primary seat of fever, from the appearance it assumed last season in Leeds, would have had no difficulty in determining it to the brain. That continued fever, especially as we have lately seen it, is, in a large majority of cases, attended with particular local excitement, and that this excitement is frequently first detected in the head is undeniable; there are, however, numerous instances, where two or three distinct organs are so simultaneously and equally affected, and others where the whole system seems oppressed without any specific derangement, that they must, under both circumstances, prove a never-failing stumbling-block to the Unitarian in the doctrine of first causes in this disease. If any organ which is liable to be affected in fever is weaker or more irritable than another, there, I conceive, *caeteris paribus*, will the local injury be found to commence; and there, too, shall we generally experience the greatest difficulty in its removal.

Having stated pretty fully, in the last report you did me the honour to insert, the general principles of the practice pursued, I shall scarcely advert to it at present. I have uniformly made it consonant with the symptoms. These were commonly in the commencement, and not unfrequently during the whole progress, evidently inflammatory. Venesection, as the principal means of cure, I have found beneficial exactly in the ratio of its early employment. When compelled to use it, in the advanced stage, to check urgent symptoms, I have sometimes been obliged to support the general powers of life by strong diffusive stimuli immediately afterwards. The recent work of Dr Benjamin Welsh, with others which have emanated from your metropolis and elsewhere, have settled, by the fiat of experience, the propriety and success of depletion in every stage where excitement exists. This seems now so universally acknowledged, that there appears as much necessity for a steady rudder as any additional sail to carry us safely through the waves of practice in fever.

Leeds, February 4, 1820.

THE

EDINBURGH MEDICAL AND SURGICAL JOURNAL.

No. LXIV.

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Communications have been received from Drs E. Gairdner, Moncreiff, Morrison, O'Brien, Whiting; and Messrs Burne junior, E Dixon, Hickman, Mackenzie, J. Richardson, W. Richardson, Robinson, and Simpson.

The following Publications have been sent to us for Review:

Histoire Naturelle et Médicale des Casses, et particulièrement de la Casse et des Sénés employés en Medicine. Par L. T. F. Colladon de Geneve, M. D. 1816. Montpelier. pp. 139. 4to. With 20 Plates.

De Præcipuis Acidi Prussici, et aquae cohobati Laurocerasi medicis facultatibus, clinicis observationibus comprobabit. J. A. Manzoni. Patavi, 24 pp. 4to.

Observations on Curvatures of the Spine. By James Macartney, M. D., M.R. I. A., F. R. S. Professor of Anatomy and Surgery in the University of Dublin. 1817. Dublin. 11 pp. 4to.

A History of the Variolous Epidemic which occurred in Norwich in 1819, and destroyed 530 individuals: with an Estimate of the Protection afforded by Vaccination, and a Review of Past and Present Opinions upon Chicken-Pox, and Modified Small-Pox. By John Cross, Member of the Royal College of Surgeons, &c. 1820, London. pp. 296, 8vo.

Cases of Tic Douloureux successfully treated. By Benj. Hutchinson, Member R. C. Surgeons. London, 1820. pp. 72, 8vo.

Medical Report of the Fever Department in Steevens's Hospital, containing a Brief Account of the late Epidemic in Dublin, from September 1817, to August 1819. By John Crampton, M D. Physician to Steevens's Hospital. 1819. Dublin. 63 pp. 8vo.

Cases of a Serious Morbid Affection, chiefly occurring after Miscarriage, &c. from various causes of Irritation and Exhaustion; and of a similar affection, unconnected with the puerperal state. By Marshall Hall, M. D., F. R. S. E., &c. 62 pp. 8vo. London, 1820.

A Cateshism of Chemistry, containing a concentrated and simple view of its elementary principles, adapted to those commencing the study of that science. By an Amateur. 166 pp. 12mo. Edinburgh, 1820.

De l'Etat des Gens de Lettres et des Hautes Ecoles sous la Regime actuel de la Commission de l'Instruction Publique. Par M. Prunelle, Ancien Medecin des Armées Françaises, Professeur à l'Ecole de Medicine, &c. Montpelier, &c. 64 pp. 8vo. à Paris, 1819.

Exposition of Elementary Principles specially concerned in the Preservation of Healthiness, and Production of Distempers amongst Mariners, Travellers, and Adventives, in Tropical, Variable, and Unkindly Climates; with Miscellaneous Illustrations of Prophylactical Administration. By Andrew Simpson, Surgeon. Glasgow, 1820. 8vo, pp. 910.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JULY 1820.

PART I.

ORIGINAL COMMUNICATIONS.

I.

RESEARCHES ON THE PATHOLOGY OF THE INTESTINAL CANAL.

By JOHN ABERCROMBIE, M. D. Fellow of the Royal College of Surgeons of Edinburgh.

PART III.

ON THE DISEASES OF THE MUCOUS MEMBRANE.

THE internal coat of the intestinal canal is to be viewed in the double light of a mucous membrane and an absorbing surface. It is in the former view that it is chiefly to be regarded as the seat of active disease; but it is evident, that such disease must influence in a great degree its function of absorption, and that this must have an important relation to the effects which will be produced on the system. The morbid conditions of it, which chiefly deserve our attention, are referable to inflammation, acute or chronic, and the various effects or terminations of inflammation, as thickening, erosion, and ulceration.

Sect. I.—*Symptoms of active Inflammation of the Mucous Membrane.*

As the disease at its commencement frequently excites little attention, the first symptoms are not well ascertained. When it comes under our view as an object of practice, we generally find more or less diarrhœa, with pain in the abdomen, which is sometimes extensively diffused over it, and sometimes confined to a particular part. It is usually increased by pressure, when the pressure is rather firm, but without that acute sensibility to a slight touch which attends inflammation of the peritonæum; it differs from peritonæal inflammation also, in being less affected by inspiration and by motion, so that the patient can often bear the erect posture with little inconvenience. The pain, in general, varies very much in degree, leaving long intervals of ease, and then occurring in paroxysms of violent tormina; these are generally followed by discharge from the bowels, but may take place without any discharge following them. In some cases, however, the pain is more permanent, so as more nearly to resemble the pain of enteritis. In general, there is frequency of pulse, with thirst, febrile oppression, and a brownish fur on the tongue; but, in some cases, the pulse is little above the natural standard through the whole course of the disease. There is frequently vomiting, but not urgent, and sometimes a peculiar irritability of the stomach, so that any thing taken into it excites a burning uneasiness, and this is usually followed by an irritation of the bowels, with a feeling as if the article which was swallowed almost immediately passed through them.

The evacuations from the bowels vary very much both in appearance and frequency. In some cases they are slimy, and in small quantity; in others, they are copious; sometimes they are watery and dark coloured; sometimes whitish; frequently yellow and feculent, as in a common diarrhœa; and sometimes articles of food or drink pass through nearly unchanged. They are in some cases extremely frequent, the patient being called to stool every ten or fifteen minutes; in others, the disease may be going on rapidly to a fatal termination, while the bowels are not moved above three or four times in the day. No diagnosis of the disease, therefore, can be founded either on the frequency of the evacuations, or on the appearance of the matters evacuated. In some cases there is tension of the abdomen, but in others this is wanting; and it may appear and disappear several times in the course of the same case.

With these varieties in the symptoms, the disease may go on for some time before its real nature is suspected; it may be considered as a common diarrhœa, and thus excite little attention and no alarm. In the farther progress of it there are considerable varieties. It may be fatal in one or two weeks, or it may extend to five or six, or it may pass into a chronic state, forming a disease analogous to that which has been called Lientery, and in this form may be drawn out to many months, and be at last fatal by very gradual exhaustion. Its fatal terminations in the active state are two, (1.) A peculiar rapid exhaustion, such as is not accounted for by the frequency of the evacuations, which often bear no kind of proportion to the constitutional effects that take place. (2.) By passing into peritonæal inflammation or enteritis. In this case the diarrhœa usually ceases a few days before death. The pain increases, with acute tenderness of the abdomen, often with vomiting and all the usual appearances of enteritis.

The diagnosis is often difficult. The disease should be suspected when there is diarrhœa with much pain, and the pain increased by pressure. If these symptoms are accompanied by fever, the case is still more suspicious, but fever, as I have already stated, is frequently wanting. The disease occurs both in an idiopathic form and as a symptomatic affection. In the latter case, it appears as an attendant on continued fever, and may either exist from the commencement of the fever, or may begin at an advanced period of it. It seems occasionally to accompany or follow other febrile diseases, especially measles, and there is reason to believe that it may supervene upon affections of the bowels, which, at first, were free from any dangerous character,—a case beginning like a simple diarrhœa, and after it had gone on for eight or ten days, the symptoms appearing which indicate this affection. In a less active form it follows many diseases of a scrofulous nature, forming a colliquative diarrhœa. The causes of the idiopathic cases are not well ascertained. It is sometimes ascribed to cold; in women especially to exposure to cold during the flow of the menses. It is probable, also, that it may be induced by acrid ingesta of various kinds, drastic purgatives in over doses, and by the mineral poisons.

The appearances, on dissection, vary considerably, according to the period of the disease at which the fatal event takes place. When this happens at an early period, we find the mucous membrane covered with irregular patches of inflammation, which are, in general, sensibly elevated above the level of the sound parts. They vary exceedingly in extent in different cases, in some ex-

tending over a great part of the canal; in others, being confined to a very small portion of it, frequently about the lower end of the ileum, or the head of the colon. They vary also in size, consisting, most commonly, of patches one or two inches in diameter, with sound portions interposed betwixt them, above which they are sensibly elevated. In other cases, but I think less frequently, a considerable extent of the canal is of a continued uniform redness.

The inflamed portions are in some cases covered by a brownish tenacious mucus; in others, by coagulable lymph, and frequently the surface of them is studded with minute vesicles, which, at a more advanced period, seem to pass into very small ulcers. In other cases small round portions of the membrane are observed of a grey colour and soft pultaceous appearance, are found to be easily separated, and to leave ulcers. In the cases which have gone on to a more advanced period, we find ulcers of various extent and appearance. In some examples, they are of the same colour with the surrounding parts, and merely appear as if a portion of the membrane had been dissected out. In other cases they are more decidedly ulcers, covered at the bottom with yellowish sloughs, often with elevated edges, and surrounded by a ring of inflammation, and sometimes penetrating to such a depth as completely to perforate the intestine. These different appearances seem to be different stages of the same disease; for we may sometimes observe one of these penetrating ulcers, surrounded by a larger circle of abrasion, without evident ulceration, and this by another ring of inflammation; this outer inflamed portion being probably covered by the very minute ulcers or small vesicles formerly mentioned. The appearances which I have now described seem to be the most common; but cases occur in which an extensive portion of the mucous membrane is black and gangrenous, and sometimes an extensive portion has been found to be separated, so as to expose the muscular coat, or even the peritonæal. Cases are also described which have recovered, after a portion of the internal coat had been thrown off in this manner, in one continued cylinder of great extent. The external surface of the intestine is sometimes healthy; in other cases there are spots of obscure redness corresponding to the inflamed portions of the mucous membrane. The cases which terminate by peritonæal inflammation or enteritis, have the appearances usual in these affections, and in the cases in which the ulcers penetrate the intestine, effusion of coagulable lymph, lividity, or gangrene, to a small extent, may often be observed on the outer surface, surrounding the perforations.

Sect. II.—*Of the Disease in Infants.*

Acute inflammation of the mucous membrane appears to be a frequent disease of infants about the age of six or eight months, and it forms a most interesting subject of research. The most important point in the investigation relates to the means of distinguishing the disease, in its early stages, from the ordinary bowel complaints of children about the period of dentition, and this is, in general, a matter of considerable difficulty. The principal point to be kept in view in the diagnosis is, that it is a febrile disease; the infant is usually hot and restless in the early stages, with thirst, and the tongue is dry, or covered with a brownish crust; there is, in general, a good deal of screaming and fretfulness; bad sleep; frequently vomiting; and, in many cases, pressure on the abdomen seems to give uneasiness. In many instances the disease assumes very much the appearance of the affection which has been called the remittent fever of infants, a term which I suspect has been applied to various febrile affections, which are merely symptomatic. The bowels are loose; but, as I have already observed, in regard to the disease in adults, the looseness of the bowels is by no means a prominent symptom in every case; for, even in the advanced stages, the bowels may not be moved above three or four times in 24 hours, while the disease is advancing rapidly to a fatal termination. In other cases this symptom is more urgent; the evacuations are preceded by much restlessness and appearance of pain, and the matters evacuated are sometimes discharged with a singular force, so as to be propelled to some distance. The evacuations vary much in appearance, and I have not been able to satisfy myself that any reliance is to be placed on them in ascertaining the disease. They sometimes consist of a reddish-brown mucus, sometimes of a pale clay-coloured matter, and sometimes of a dark watery fluid; but, in many cases, they shew little deviation from the healthy state, while in many, their appearance is evidently disguised and modified by articles of food or drink, which pass through nearly unchanged. The disease, in fact, often goes on for some time without exciting alarm, or being distinguished from an ordinary diarrhœa, until attention is strongly and suddenly directed to the dangerous nature of it, by the occurrence of constitutional symptoms, which do not appear in the ordinary bowel complaints of children. These consist, in some cases, of a great degree of febrile oppression, with dry crusted tongue, thirst, and vomiting; in others of a very sudden and rapid exhaustion of the vital powers, which is unex-

pected, and is not accounted for by the frequency of the evacuations, and sometimes of the sudden appearance of coma, with a peculiar hollow languid state of the eye, and a pale waxen look of the whole body, while the pulse, perhaps, is of tolerable strength. These symptoms may appear while the disease has been going on for a short time, and the evacuations have been by no means frequent; while the disease, in a word, was not to be compared, either in its continuance or the frequency of the evacuations, with the ordinary bowel complaints of children, which often go on for a long time without producing any inconvenience.

The causes of the disease are not well ascertained. It frequently occurs about the period of dentition, and in many cases appears to be connected with weaning. The fatal terminations are either by a rapid and peculiar sinking of the vital powers, or by coma. On dissection we usually find the affection in what may be considered as the first stage. In various parts of the inner surface of the intestine, particularly the ileum, there are irregular patches of inflammation, slightly elevated above the level of the surrounding parts, and often covered with the minute vesicles, or minute ulcers, formerly mentioned. I have not seen it, as in adults, pass either into more extensive ulceration, or into peritonæal inflammation. Effusion in the brain is met with in the cases which terminate by coma. This termination is often preceded by a remarkable scarcity of urine, amounting, in some cases, nearly to a suspension of the secretion; but I have not ascertained whether this symptom be confined to the cases which terminate by coma.

Sect. III.—*Of the Chronic Form of the Disease.*

The disease, in its chronic form, may supervene upon the acute, or it may come on gradually without any acute symptoms. After it has continued for some time, we generally find the patient considerably emaciated, often with a peculiar withered look. There is an untractable diarrhœa, which, in some cases, is permanent; in others, occurs at short intervals, continuing for a few days at a time, and alternating with costiveness. In some cases the appetite is good, or even voracious; but, in general, it is variable and capricious, with indigestion and great uneasiness after eating, and sometimes every thing that is taken into the stomach produces a peculiar uneasiness, which passes downwards into the bowels, and is only relieved after repeated evacuations. If by opiates or astringents the diarrhœa be re-

strained, the uneasiness in the stomach is generally much increased, and in some cases vomiting is excited. In other cases, vomiting regularly alternates with the diarrhœa, the patient being for a few days at a time affected with frequent vomiting without diarrhœa, and then for a few days with diarrhœa without vomiting. Remedies given in such cases to alleviate the one lead to the other, or they may alternate without any interference. There is generally pain in the abdomen, but it varies much both in degree and duration; in some cases it only appears in the form of tormina preceding the evacuations; in others it is more permanent, and is increased by pressure.

The matters evacuated vary much in appearance, being sometimes fluid and feculent, frequently white, and sometimes composed of a mixture of half-digested articles, with the addition of recent bile, or a brownish mucus, which appears to be the production of the diseased surface. In some cases there are discharges of venous blood, which may either appear in the form of coagula, or as a dark pitchy matter, giving a dark colour to the whole of the matter discharged.

Some of the chronic cases appear to go on for a considerable time without much disturbance of the general health; but, in others, there is much weakness and emaciation; frequently hectic paroxysms; and sometimes a rawness or tenderness of the mouth and fauces, with aphthæ or minute ulcers, often accompanied by a tenderness of the œsophagus, and a painful burning sensation in the stomach after eating.

The appearances on dissection shew the disease in various stages. In some cases, even after the symptoms have existed for a considerable time, we still find it in the form of irregular patches of a fungous appearance, and a dark red colour, slightly elevated above the healthy parts. In others, we find distinct small ulcers, with round elevated edges, and sometimes more extensive irregular ulceration, with ragged edges. Frequently the coats of the intestine are thickened at the ulcerated parts, sometimes to such a degree as considerably to diminish the area of the intestine. In such cases, the ordinary symptoms of the disease are apt to alternate with attacks of obstinate costiveness, and they are frequently fatal by ileus. In some cases, instead of ulceration, the inner surface of the diseased parts is studded with numerous tubercles, of various sizes, and sometimes an extensive tract of intestine is found covered with smooth cicatrices of ulcers, which have healed. In some of these cases, the symptoms have continued, and gone on to their fatal termination in the usual manner. In others, this appearance is found after the symptoms have ceased, and the patient has died of

some other disease. Cases have also occurred in which the patients died of emaciation, after the symptoms had ceased, apparently from these cicatrices being so extensive as to interfere with the process of absorption.

Sect. IV.—*Examples of the principal Forms and Terminations of the Disease.*

§ I.—*The active Form of the Disease.*

Case I.—Many years ago, a woman, aged 25, was admitted into the Infirmary of Edinburgh, affected with pain over the abdomen, tenesmus, and diarrhœa. The pain occasionally intermitted, and was most severe upon going to stool, and on passing urine. The evacuations were free from scybalæ or blood. She had thirst, headach, some cough, nausea, and occasional vomiting, a pale emaciated look, pulse 72. Ascribed her complaints to cold; and they had been gradually increasing for three weeks. Various remedies were employed, without benefit, consisting chiefly of opiates, absorbents, and calomel. The disease went on for eight days more, with various remissions and aggravations.

2d day.—Two stools; severe tormina, which were relieved by fomentation.

3d day.—Nearly free from tormina; one stool, which seemed to consist of broth, which she had recently taken, little changed.

4th day.—Two scanty evacuations, without griping; abdomen hard and painful; vomited once; a mild enema produced a copious discharge, and relieved the tormina.

5th day.—Less pain; vomited several times; one stool, thin and feculent; pulse 78; took gr. vi. of calomel.

6th day.—Two stools; one of them thin and feculent; the other much tinged with blood; much pain before the evacuations; abdomen tense and painful; pulse 80; vomited a considerable quantity of slimy matter, tinged with blood, and having some pus mixed with it. Took gr. viii. of calomel.

7th day.—Two stools; thin, feculent, and of a natural appearance; preceded by much pain; vomited repeatedly some greenish slimy matter, mixed with bloody pus; less tension of the abdomen; pulse from 60 to 70. Took calomel with opium.

8th day.—No stool; and no vomiting. Died in the night.

Dissection.—The vessels on the stomach, duodenum, and jejunum, were unusually distended with blood. The ileum was livid, with some adhesions. Its internal surface was quite black; and it contained dark-coloured slimy matter, mixed with very fetid pus. The colon on the left side was livid, with adhesion to the abdominal pa-

rietes, and to the lower part of the omentum, which also was livid. Between these parts there was much fetid pus.

Case II.—A girl, aged 6, was affected with severe and obstinate diarrhœa, which reduced her to great weakness and emaciation. It continued from three to four weeks, and then subsided, and was succeeded, after a short interval, by severe pain in the belly, headach, and vomiting; the bowels being then rather bound; the pulse was from 30 to 40 in a minute; the urine was high-coloured, and much diminished in quantity. The headach continued with vomiting, and a constant spasmodic motion of the right arm and leg; and, after seven days, she sunk into coma, and died in two days. The pulse continued from 30 to 40 till a day or two before death, when it rose to 70 or 80. I did not see this case during the life of the patient, who was treated in the most judicious manner by an intelligent practitioner. I was present at the examination of the body. *Dissection.*—There was considerable effusion in the ventricles of the brain; and a lacerated opening in the septum lucidum, surrounded by a ring of inflammation. The inner surface of the ventricles was remarkably vascular, and in some places very soft and broken down. In the anterior part of the left hemisphere, a portion of the brain was darker in the colour, and firmer than natural, and contained some hard tubercles. The inner surface of the caput coli, and of a great part of the ascending colon, was of a dark red colour, and covered with numerous patches of a dark red fungus, which were considerably elevated above the level of the surrounding parts. The other viscera were healthy.

Case III.—A girl, aged 9, was seen by Dr Alison in December 1819, affected with the usual symptoms of contagious fever, which was prevalent in a narrow and crowded lane where she resided, and had affected a person in an adjoining room. From the commencement of the disease, she had diarrhœa, with griping, and considerable tenderness of the abdomen, and the evacuations were thin, feculent, and of a natural appearance. These symptoms continued, with frequent pulse, and foul dry tongue, till two days before her death, when the diarrhœa suddenly subsided, and was succeeded by violent pain, acute tenderness of the abdomen, and every symptom of peritonæal inflammation. The duration of the case was about three weeks. I did not see it during the life of the patient, but am indebted to Dr Alison for the above outline of it, and for an opportunity of being present at the examination of the body. *Dissection.*—There was considerable peritonæal inflammation, especially on the ileum, where there was extensive adhesion, with considerable deposition of coagulable lymph in flocculi. The adhering parts were also in several places perforated by small ulcerations, through which some feculent matter had escaped into the cavity of the peritonæum. The ileum being laid open, discovered a most extensive tract of disease, on its inner surface, the mucous membrane being extensively eroded, and in many

places completely destroyed, by round well-defined ulcers, some of which were as large as a shilling. The lower extremity of the ileum was the principal seat of these ulcers; but the disease extended over a great part of that portion of the small intestine; and, in several places, its coats were considerably thickened. The higher parts of the small intestine were healthy. The colon was collapsed, and externally healthy; internally there were in several places, especially on the left side, patches of inflammation on the mucous membrane; but they were slight and recent, and without any appearance of ulceration. The ileum contained a considerable quantity of fluid feculent matter, which was quite healthy in its appearance. In the higher part of the small intestine, there was a small quantity of dark-green viscid fluid, like inspissated bile. The colon contained only a small quantity of mucus, of a healthy appearance; other viscera sound.

As in this case there was considerable reason to believe that the original disease was contagious fever, the affection of the bowels may perhaps be considered as symptomatic. This occurred more distinctly in a case mentioned by Dr Duncan junior, in which the disease in the mucous membrane seemed to commence about the 23d day of the fever. The case was fatal in nine days more, and, on dissection, the disease was found nearly in the state of simple inflammation. At various parts of the mucous membrane, from the jejunum to the rectum, there were purple patches occurring, at first at intervals of an inch or two inches, and then running gradually more and more into each other, until, towards the termination of the ileum in the colon, the whole surface of the mucous membrane exhibited a deep purple hue. The mucous membrane of the caput coli had a similar appearance, but the arch was almost entirely free from it. It occurred again at the sigmoid flexure, and in the rectum, in addition to the venous congestion, numerous fungous looking patches presented themselves, from a quarter to half an inch broad, and elevated fully an eighth of an inch above the surface of the intestine. They had a very vascular appearance, but their surface was covered with a thin yellowish crust. This patient (a woman aged 60) seemed to be convalescent from fever with petechiæ, when about the 23d day of the disease she was attacked with diarrhœa without any complaint of pain,—the stools fetid and dark coloured,—the pulse varying from 80 to 100,—after six days she had considerable pain and bloody evacuations, and died exhausted on the 9th.

This symptomatic form of the disease is the affection which has lately excited much attention in France, under the name of Fièvre Entéro-Mésentérique, and has given rise to a very keen controversy in regard to the nature of it; one party contending that it is symptomatic of common fever,—the other

that it constitutes a peculiar species of fever, of which the affection of the mucous membrane is a primary and essential phenomenon. Numerous examples of it, in the state of simple inflammation, erosion, and ulceration, are described by Petit.*

The following cases afford striking examples of inflammation of the mucous membrane in various stages of its progress, and in forms which may probably be considered as idiopathic:

Case IV.—A girl, aged 5, had headach, anorexia, bad sleep, nausea, mucous vomiting, frequent pulse, dry skin, and pain of the abdomen, increased by pressure; bowels at first rather bound. Seemed much better after an emetic, and was thought convalescent for several days; but was then suddenly seized with violent looseness, which nothing could restrain; was rapidly exhausted, and died in ten days. The stools were liquid, greyish, and very fetid. *Dissection.*—The small intestines were discoloured, and on various parts of their surface, there were round red spots under the peritonæal coat, which corresponded with inflamed spots on the mucous membrane. The great intestine was of a "rose-violet colour," which was deepest towards the rectum; the serous membrane seemed inflamed, and the parietes thickened. Two inches from the valve of the colon, there was in the inner surface of the ileum a large round ulcer with irregular edges, the bottom greyish and rugous, and easily torn off. Near it there were three other ulcers of the same character, but smaller. The mucous membrane between these ulcers was pale, and covered with numerous small black spots, which extended through the whole thickness of it. They were also seen on the valve of the colon, and on the appendix vermiformis. The mucous membrane of the lumbar colon of the right side was of a pale rose colour, and covered with small black spots, each of which had a grey circle round it; these circles were formed of a soft pulpy matter, which was easily raised, and discovered ulcers well defined, as if a piece had been cut out, the black points coming off along with the pulpy matter. In the transverse colon, there were other ulcers in the mucous membrane, covered by a thick grey matter, and increasing both in breadth and depth; their edges becoming more and more elevated, hard and fungous, and of a violet colour. In the descending colon, the ulcers ran so into one another as to present nearly one continued surface of ulceration. The mucous membrane was not observed at all, but a close succession of deep irregular ulcerated excavations, separated by fungous eminences, which were covered with black and red spots. In some places the ulceration had extended so deep as to destroy the muscular coat. The cavity of the rectum was full of a grey ichorous fetid matter.†

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* Traité de la Fièvre Entéro-Mésenterique.

† Cloquet, Nouveau Journal de Medicine, Tome I.

This may be considered as an idiopathic example of this disease, fatal by that peculiar exhaustion which accompanies it, and which is much more rapid than simple exhaustion, depending merely upon the frequency of the evacuations. The following case affords an example of another termination of it, by the inflammation extending to the peritonæal coat.

Case V.—A girl, aged 7,* had symptoms similar to the preceding, and being treated upon the same plan, was considered as convalescent. After six days, she was seized with vomiting and copious diarrhœa, with constant acute pain in the abdomen, which was painful on pressure, but not enlarged. After eight days the pain suddenly increased, the belly became enlarged, with great sensibility, hiccup, vomiting, and all the signs of peritonæal inflammation, which in seven days was fatal. *Dissection.*—Peritonæal inflammation, with recent adhesions and serous effusion, in which there were flocculi of coagulable lymph. Near the end of the ileum, there was a round opening through which feculent matter had escaped. This opening had its origin in a large and deep ulcer on the inner surface of the intestine, much more extensive on the inside than the outside; its edges were elevated, hard and tubercular on the inner side, but thin on the outside. Near it were two other erosions of the mucous membrane, less extensive and less deep, and surrounded with black spots; other parts sound.

Case VI.—A girl, aged 9,† had obstinate dysentery for two months, and was reduced to extreme emaciation. The pain then increased, the belly became tender to the slightest pressure, with all the symptoms of peritonæal inflammation, which was fatal in 23 hours. *Dissection.*—Extensive inflammation and adhesion of the intestines to each other, and to the abdominal parietes on the right side. There were also many livid spots, elevated, with thickening, and some ulceration of the coats of the intestine. About the middle of the ileum there were three ulcers of the mucous membrane, similar to those described in the preceding case.

This extension of the inflammation from the mucous membrane to the other coats of the intestine, seems to be a frequent termination of the disease. I have formerly described a remarkable case of it; in which unmanageable diarrhœa, of two or three weeks duration, was succeeded by symptoms of enteritis, which was fatal in two days. (Part II. Case XIII.) It occurred also in Dr Alison's case, Case III. of this paper. I have already expressed doubts whether some of the cases which I formerly considered as peritonæal inflammation, may not

* Cloquet, Nouveau Journal de Medecine, Tome I.
† Cloquet, *ut supra.*

have been really of this nature, particularly Cases II. and III. of Part II. In Case II. it is not improbable that inflammation of the mucous membrane had existed for some time, and that the disease was arrested by the treatment there described, when the inflammation was spreading to the peritonæum.

The colliquative diarrhœa of phthisical patients, and untractable affections of the bowels analogous to it, which supervene on various scrofulous diseases, seem to be often connected with inflammation and ulceration of the mucous membrane. In such cases I believe the ulcers are generally small, and sometimes the disease has not advanced beyond the state of chronic inflammation, with inflamed patches of a fungous appearance, a little elevated above the sound parts. In the following case the disease was in a more severe form.

Case VII.—A boy, aged 11,* had scrofulous disease of the left elbow-joint, for which he suffered amputation, and the stump healed favourably in sixteen days. About this time he was seized with pain of the breast and belly, and diarrhœa. The pulse was small and sharp; the tongue white; the belly was painful on pressure; the evacuations were copious, of a greyish colour, and fetid. He died in about three weeks.

Dissection.—There was effusion in the pericardium; the lungs were tubercular, and much diseased. The peritonæum was inflamed, and covered with lymph and miliary tubercles, like those of the lungs. The intestines were of a red-violet colour, with dark irregular spots. The inferior extremity of the ileum, the cæcum, and the sigmoid flexure of the colon, were pierced by small fistulous openings, which were surrounded externally by dark spots, and internally had their origin in large and deep ulcers of the mucous membrane, with elevated, reverted, and tubercular edges. They were most numerous in the large intestine, but did not extend to the rectum, the mucous membrane of which was only injected, and marked with red spots. In the inferior part of the cæcum there was a diseased mass, resembling the ulcerations, the size of a small egg. The mesenteric glands were enlarged, and contained soft tuberculous matter. The liver adhered to the stomach and the diaphragm, and on the omentum there were scirrhous granulations.

There are many other cases on record, which illustrate the phenomena of this important disease. A man, aged 60, whose case is described by Dr Duncan junior, was affected with diarrhœa, and pain about the umbilicus, which was not increased by pressure. The evacuations were frequent, yellow, and generally fluid, and were preceded by tormina; they were excited by taking food or drink. His pulse was natural, and his appetite good; but he was deterred from taking either food or drink,

* Cloquet, *ut supra.*

from the fear of inducing the diarrhœa. The disease resisted all the remedies that were used, and, without any particular change in the symptoms, was fatal in six weeks. On dissection, there were found marks of peritonæal inflammation; the descending colon and rectum were found much thickened; and, "at several places, the internal membrane of the intestines was partially, and at others entirely removed, marking the intestines as small pox does the skin. In the cavity of the abdomen, about lb. vj. of a light yellow serum, with flakes of a similar colour."* A young man, mentioned by Morgagni, † was seized with tormina, with frequent bloody stools, which, after 15 days, was changed into a yellow diarrhœa, without tormina. This was soon followed by tertian fever, which terminated in a month. The diarrhœa still continuing, he was then seized with acute fever, which was fatal, with stupor, in 14 days. The termination of the ileum, and the commencement of the colon, were, for a considerable space, eroded, ulcerated, and in some places gangrenous on the inner surface. In many places, the intestine was perforated by the ulcers.

§ II.—*Examples of the Disease in Infants.*

Case VIII.—An infant, aged 6 months, (13th May 1817,) had been affected for about a week with looseness of the bowels, and occasional vomiting. The complaint was considered as the common bowel complaint of dentition; but the stools were scanty, offensive, and dark-coloured, and though they were not very frequent, there was frequently observed a considerable tendency to sinking, with paleness and coldness of the body. After several days, the stools became natural, the vomiting ceased, the appetite returned, and the looseness was extremely moderate. These favourable appearances, however, were of short continuance. On the evening of the 18th, the looseness suddenly increased; it was excited by every thing that was taken into the stomach, and the articles taken seemed quickly to pass through. On the morning of the 19th, I found her pale and exhausted; and though the looseness was checked by opiate injections, every attempt to support her was in vain. She died in the afternoon, having lain through the day in a state of oppression resembling coma.

Dissection.—The bowels were externally healthy, except some spots of superficial redness. On the inner surface of the small intestines there were, in many places, irregular patches of inflammation; and, in other places, there were spots of limited extent covered with

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* Clinical Reports, p. 133. † De Causis et Sedibus, Ep. XXXI. § 2

minute ulcers. These spots were whitish, or ash-coloured, of a honeycomb appearance, and were slightly elevated above the level of the surrounding parts; and on the external surface of the intestine, corresponding with several of them, there were the spots of circumscribed redness, or increased vascularity. The mesenteric glands were enlarged; other viscera healthy.

Case IX.—An infant, aged 7 months, soon after weaning, was suddenly seized with vomiting and purging: was oppressed, fretful, and feverish: the stools were scanty and varied in appearance, being sometimes brownish, and sometimes pretty natural. After a day or two, the vomiting ceased; the looseness continued, not severe, nor very frequent, but accompanied by much oppression and feverishness, a brown fur on the tongue, and a remarkable dryness of the gums; the stools varying in appearance as before. Various remedies were now employed with little benefit. After four or five days, the child became comatose. This was relieved by blistering on the neck, and a purgative of calomel. The stools then became green, but generally scanty and watery. The febrile state continued, with the fur on the tongue. The child sunk gradually, with oppressed breathing, and died on the 9th day.

Dissection.—The bowels externally appeared healthy, except that on various parts of the small intestines there were spots of redness, which had not the appearance of superficial inflammation, but of red surfaces situated beneath the peritonæal coat, that coat itself being healthy. At the parts corresponding with these spots, the inner membrane was elevated into irregular patches of inflammation, and the inflamed surfaces were covered by very minute ulcers. In the neighbourhood of these inflamed portions, the mesentery was unusually vascular. The colon was collapsed, and externally healthy; its inner surface presented an unusual appearance, being in many places covered by very minute vesicles, scarcely elevated above the surface of its inner membrane, but shining through it, clear, transparent, and watery; they were most numerous in the caput coli, but were observed through the whole course of the colon; and they were the only morbid appearance in the colon, there being no vestige either of inflammation or ulceration.

These two cases will serve to exemplify the disease as it occurs in infants. The following case, for which I am indebted to Dr Oudney, exhibits the disease at a more advanced age.

Case X.—A girl, aged 3 years, was attacked about three weeks before her death with vomiting, frequent calls to stool, and uneasiness in the abdomen; the evacuations were reported to have been frequent, slimy, and fetid. After eight or ten days, when Dr Oudney first saw her, she had frequent irregular febrile paroxysms; the abdomen seemed to be painful on pressure; she had frequent stools of a clay colour, and she vomited often; her tongue was white; there was urgent thirst, especially during the febrile paroxysms. In this

state she continued until a few days before death, when she became oppressed, and partially comatose; screamed frequently, and expressed great unwillingness to be moved. The febrile exacerbations still continued, the pulse varying from 130 to 150, and she had frequent stools, which were now of a dirty green colour, mixed with specks of yellow. The pupil was natural, and continued sensible to light until a few hours before death, which happened on 8th February 1820. *Dissection.*—The ileum, from its termination in the colon to near the jejunum, was highly vascular, its minute vessels appearing as if injected. Its mucous membrane was covered with numerous irregular inflamed patches, which had a fungous appearance, considerably elevated above the level of the sound parts, and covered with small ulcerations. Some of these patches were the size of a shilling, others smaller, they were generally at the distance of an inch or two from each other, and the membrane in the intervals was healthy. The mesenteric glands were greatly enlarged, and very vascular.

§ III.—*Examples of the Chronic Form of the Disease.*

Case XI.—A lady, aged 35, died in April 1818, after having suffered for nearly four years from a diarrhœa which had resisted every remedy. I saw her a few weeks before death, and found her pale, withered, and emaciated, with frequent pulse, slight cough, and considerable uneasiness in the abdomen. The diarrhœa occurred several times every day, and the stools were thin and feculent, and not unnatural in their appearance. At the commencement of the complaint she had suffered much from pain in the bowels, and occasionally through the whole course of it, but it was not constant, nor confined to any particular part. A variety of remedies had been employed at different times, and frequently the disease had been restrained by them for some time, but it always returned after a short interval with the same violence as before. She had no vomiting, the cough had begun within the last year of her life, and was never severe. For some time before her death she had aphthæ of the throat. *Dissection.*—The bowels were externally healthy, except in several places of the small intestine, large spots of a dark red colour, which seemed to be deep-seated, as if shining through the peritonæal coat. At the places corresponding with these spots, the mucous membrane was elevated into patches of a fungous appearance and dark red colour, and on these portions there were numerous small oval ulcers, the bottoms of which were smooth and pale, while the parts around were of a dark red. At these ulcers, the intestine, when held up to the light, was semitransparent, they were found wherever the dark fungous appearance existed, and this was on a considerable part of the small intestines in irregular portions, some of which were six or eight inches in length. The colon was externally healthy; internally, there were many small ulcers, which had a different character from those on the

small intestines. They were more distinctly ulcerated at the bottom, few of them larger than the diameter of a split pea, but each surrounded by a firm elevated margin, and there was no discoloration of the surrounding parts. They were chiefly observed in the ascending colon and the arch. On the inner surface of the stomach, near the pylorus, and of the œsophagus through its whole extent, there were observed numerous very small erosions, of an oval shape, and scarcely larger than the diameter of a pin-head. The lungs were tubercular, and in the left lobe there were several small abscesses. The other viscera were sound.

In this case I think it probable that the original disease was in the colon, where the ulcers appeared to be of long standing. Those in the small intestine were probably more recent. The following case shows the disease in a more violent form:

Case XII.—A girl, aged 13. Her complaint began about a year before her death, with pain of the abdomen and frequent vomiting. The bowels were at first natural, but soon became loose; and from that time she was almost constantly affected either with diarrhœa or vomiting, and sometimes with both at once. She became gradually emaciated, but was not confined to bed until a month before her death, which happened in June 1814. When I saw her about a week before she died, she was emaciated to the last degree, with some cough, and a small frequent pulse. She had still frequent diarrhœa and vomiting, and complained of constant pain in the bowels, which was increased by pressure, but the abdomen was soft and collapsed. *Dissection.*—The caput coli was dark-coloured, hard, and much thickened in its coats; internally, it was much eroded by ulceration, and the disease extended in the form of numerous smaller ulcers, about three inches along the ascending colon. The valve of the colon was destroyed by ulceration. The lower end of the ileum, to the extent of about eighteen inches, was distended, thickened in its coats, externally of a reddish colour, and internally covered by numerous small ulcers, varying in size from the diameter of a split pea to that of a sixpence. They were clean and well defined, as if a piece had been cut out. The lungs and all the other viscera were healthy.

Case XIII.—A boy, aged 12,* about eighteen months before his death, suffered for some time from severe and obstinate diarrhœa, and from that time he was much troubled with pain in his bowels, and was liable to occasional diarrhœa, and to vomiting. The vomiting occurred especially after a full meal, and he suffered occasionally from pain in the lumbar region, which was aggravated by the erect posture. On the 22d May 1819, he had severe pain in the lower part of the back, but did not complain of his belly, and there was

* London Medical Repository for December 1819.

neither fulness nor tenderness of the abdomen. Pulse 120. Bowels had been moved four times the day before, and once in the night. (23d.) Pulse 100; pain abated; no stool; sunk rather unexpectedly, and died in the night. *Dissection.*—A part of the ileum was found much contracted, and its coats much thickened. Above and below this part, there were small ulcers of a honey-comb appearance, with hard and thickened edges; the surface of them was of a dark cineritious appearance, and the coats of the intestines felt hard and knotty. The inner surface of the strictured part was also ulcerated. Below this part, there was a portion of a dark livid colour, and below that, another contracted and indurated part, which occupied the last three inches of the ileum. In this part there had been numerous ulcers, some of which had healed and left hard cicatrices, and the whole inner surface of this portion was puckered, ragged, and irregular, and the area of the intestine very much contracted.

It is by the thickening of the intestine which occurred in these cases, at last destroying the muscular action, that the disease is sometimes succeeded by obstinate costiveness or ileus. A gentleman, whose case was communicated to Dr Monro by Dr Sanders, had been liable for twenty years to heartburn and occasional vomiting, and generally had five or six liquid stools every day, which were sometimes slimy and streaked with blood. He was afterwards affected with such obstinate costiveness that he had no stool for nine days. After this the diarrhœa returned, with vomiting, and he died at last with great distention of the abdomen and costiveness. The intestines were found extensively adhering to each other; and an extensive portion of the ileum was distended, very much thickened in its coats, and internally covered with various tumours, indurations, and ulcers. *

The following case shows the state of the disease, when the patient died of another affection, while the symptoms were going on.

Case XIV.—A man, aged 72, was affected with diarrhœa, and acute lancinating pain in the abdomen; he had voracious appetite and good digestion. Various remedies were employed without benefit for four months and a half, at which time he was seized with an affection of the brain, and died comatose in six days. *Dissection.*—Extensive serous effusion in the brain, and a suppurating tumour in the right hemisphere. On the small intestine there were some adhesions, and many dark spots. The middle part of it adhered to the left side of the colon at its lower part, and at this place a free communication had taken place between them by a ragged irregular open-

* Monro's Morbid Anatomy of the Gullet, p. 306.

ing, with loose ragged edges. There were numerous ulcers in various parts of the mucous membrane of the small intestine, which corresponded with the dark spots on the outer surface. These ulcers were round, with elevated edges; the bottom of them was grey, unequal, and covered with mucus. *

The symptoms may be equally severe, though the disease be less extensive. A woman, above 30 years of age, had been for some time affected with pectoral complaints, and a fixed pain in the umbilical region. She had then, after repeated injuries from falls, a pain in the left lumbar region, which prevented her from sitting, though she was able to walk. This continued three months, and was succeeded by amenorrhœa, with hemorrhage from the anus. This ceased after three months, the menses returned, and she was affected with diarrhœa. The diarrhœa ceased, and was succeeded by a grey discharge from the vagina, which continued for several months, and was succeeded by intermittent fever. This succession of disorders terminated in diarrhœa, which continued a year, and was then fatal. The evacuations were accompanied by severe pain, and consisted of various matters, mucous, ropy, and shreds of membranous concretions, and for two days before death much blood was discharged. *On dissection* the lungs were found adhering extensively to the pleura costalis; the liver was grey, red, and white, the latter colour predominating. The heart was a third smaller than usual. The commencement of the ileum was black, and the mucous membrane of this portion showed a cancerous ulceration. †

These cases will be sufficient to illustrate the disease in its most common forms, terminating by ulceration of various extent, and, in some cases, accompanied by thickening of the coats of the intestine. In the following case, in which the disease was of considerable standing, it had not advanced to ulceration.

Case XV.—A gentleman, aged about 60, had been for several years liable to looseness of his bowels. It attacked him most frequently in the night time, and often obliged him to get up several times in a night. His general health, however, was not much affected till a few months before his death, when the diarrhœa became more severe, and resisted every remedy. His strength sunk; he became pale and emaciated: with bad appetite and bad digestion; and died gradually exhausted. *Dissection.*—The liver was enlarged, pale, and tubercular. The intestines were externally healthy. Internally, the mucous membrane was in many places elevated into portions of a

* Cloquet, Nouv. Jour. de Medecine, Tome I. p. 29.
† Pinel. Médecine Clinique, p. 254.

dark red colour, and fungous appearance. These portions were observed through the whole tract of the intestine, generally in broad rings, going quite round the intestine, with intermediate portions of a healthy appearance. They were most numerous in the small intestine. No ulceration was observed in any part.

I shall only add one other case, showing the state of the parts when the symptoms had ceased after long continuance, and the patient died of another disease.

Case XVI.—A lady, aged 24, had been of a feeble and delicate habit from her early years; but, from the age of 15 or 16, had been almost constantly in a valetudinary state; was generally confined the whole winter with cough, pain of her bowels, and diarrhœa; got a little better during the summer, but was constantly, more or less, affected with diarrhœa and occasional pain in the bowels; variable appetite, bad digestion, and general debility. In this manner she had passed six or seven years, when she came to Scotland in summer 1815. She was then much emaciated, with a constant loose state of her bowels; the evacuations were fluid and whitish, and usually occurred four or five times every day. When at any time they were less frequent, she became oppressed about the stomach, and extremely uneasy. She had frequently pain in the bowels; her appetite was bad; the pulse natural. In the winter the same state of her bowels continued, and she had a loud noisy cough, without expectoration. In summer 1816 she began to improve considerably, having appeared to derive benefit from large doses of the tinct. muriat. ferri, combined with tincture of hyosciamus. The bowels got into a more natural state; the stools became consistent and healthy, and from this time there was no return of the former state of her bowels; but her appetite was bad, with very bad digestion, and she made little improvement either in flesh or strength. In the following winter her cough returned, at first without expectoration; but afterwards she had pain of her breast; frequent pulse, and purulent expectoration, and died of phthisis in May 1817, without any complaint in her bowels. *Dissection.*—The lungs were extensively tubercular, with numerous small abscesses. The lower half of the stomach was contracted, and considerably thickened. The pylorus also was a little thickened, but not hardened. On the internal surface of the intestines, there were many portions, several inches in extent, of a dark red colour, and more vascular than the other parts; and, on many places, there was the appearance of small, smooth cicatrices. The other viscera were healthy.

Besides the various forms of the disease which are exemplified in the above cases, there are some others which are deserving of notice. One appearance has been observed which does not occur in any of the cases which I have mentioned, I mean small tubercles or pustules resembling small-pox, covering the mucous membrane. This appearance has been observed by Petit, and

Lieutaud refers to several examples of it. I have also to add, that the disease sometimes terminates by peritonæal inflammation in a chronic form. In these cases we find the usual symptoms, untractable diarrhœa, going on for a long time, or alternate diarrhœa and vomiting, and besides the usual appearances in the mucous membrane, we find the intestines extensively glued together by very firm adhesions of long standing. A case of this kind, in a child three years of age, is mentioned by Mr Howship. The first symptoms were diarrhœa, impaired appetite, pain of the belly, irregular feverishness, and emaciation. After two months the diarrhœa subsided, the stools being not more frequent than natural, but the emaciation increased, with pain and tumefaction of the abdomen, and constant fever. The child was thus cut off by rapid exhaustion; the bowels, for a short time before death, being rather bound. On dissection all the intestines were found glued together into one mass by most extensive deposition of coagulable lymph; the villous coat of the small intestine was in several places destroyed by ulceration, and at one place there was a perforation a quarter of an inch in diameter.

The symptoms and morbid appearance which have been mentioned seem to form the leading phenomena of this important class of diseases, as far as they have been hitherto ascertained. But much observation is required to make us fully acquainted with the subject. It is probable that the disease exists in a much more limited degree than in the cases which have been described, and accompanied by symptoms which are much less defined. It is probable, also, that there are important varieties of the symptoms, depending on the seat of the disease, particularly in regard to the degree in which the stomach is affected. There seems to be one form of it in which vomiting is the prominent symptom, especially in the early stages. There is much reason to expect, that an accurate investigation of the subject will throw much light upon many affections which are at present involved in much obscurity, and which are often indiscriminately classed together under the very indefinite term, *disorders of the chylopoietic viscera*. A gentleman, aged 34, who had formerly suffered from dysentery, but had been free from any symptom of it for several years, was observed to look ill, and to lose flesh, without any defined complaint, except nausea and indigestion; his spirits were depressed; and his bowels were irregular, being sometimes loose, and sometimes the reverse. After several months had passed in this manner, he had frequently vomiting, and a distressing sensation of heat in the stomach and œsophagus. He sometimes took food with eager-

ness, and sometimes refused it. His pulse continued natural until three days before his death; he then had convulsive affections and delirium, with frequent pulse, and died in a state of coma, which continued about 12 hours. His death happened about a fortnight after the commencement of the vomiting. On dissection, all the viscera were found perfectly healthy, except about 18 inches of the lower extremity of the ileum. The coats of this portion were livid, and several indurations might be felt through it. Its internal surface was covered with ulcers of various sizes, from the size of a bean to that of a half-crown piece; these were circumscribed, but very rugged, from a great quantity of fungous substance thrown out both from their surfaces and edges.*

A woman, aged 55, was affected with weakness, emaciation, and loss of appetite, without any fixed complaint, except occasional colic pains, which were transient and very slight, and discharge of blood by stool, which was considered as hæmorrhoidal. After she had been affected in this manner for six months, she became suddenly comatose, and died on the following day. On dissection, no disease could be detected in the brain. Nearly the whole extent of the rectum was occupied by a cancerous ulceration. The remainder of it, and the left side of the colon, were red, and purple, as if sphacelated. The other viscera were sound.†

Sect. V.—*Pathological Conjectures.*

The effects of inflammation on the mucous membrane of the intestine appear to be, morbid sensibility, with increased secretion of mucus, and morbid irritability of the muscular fibres which are connected with the inflamed part. The part thus affected seems to be excited to increased contraction by the ordinary mild contents of the canal, in the same manner as, in its healthy state, it would be excited by acrid contents, or by its appropriate stimulus, purgative medicine. Now the symptoms produced by such a morbid condition will vary considerably, according to the seat and the extent of the disease; for, if we suppose the healthy contraction and dilatation of the canal to be going on in the usual manner, propelling downwards the usual contents, it is probable that the increased action will only commence when these arrive at the part which is inflamed; hence the affection differs remarkably from a general increase of the peristaltic motion; because the parts above do not participate in

* Memoirs of the Medical Society of London, Vol. VI. p. 128.
† Pinel. Médecine Clinique, p. 257.

it. For the same reason, there is probably a diversity in the symptoms, according to the kind of contents which are present. If these are fluid, they seem to be received into the inflamed parts, and instantly transmitted by a violent contraction; but, if they are solid, and of any considerable dimensions, and consequently requiring for their transmission a greater dilatation than is required for fluids, the effect probably is, such a sudden and violent contraction, on the first contact, as rather resists their transmission into the inflamed part, and causes them to be retained in the part immediately above. Hence probably arise remarkable diversities in the symptoms, according as the disease may be confined to the region usually occupied by consistent feces, or may extend into the region of fluid feces, or into the higher regions, where the process of digestion is not completed. In the first case, the discharge probably consists chiefly of the secretion from the diseased parts, while the natural feces are retained; in the second, of healthy fluid feces; in the third, of articles of food or drink, partially changed, mixed with the biliary and other secretions, and varying considerably, as one or other of these articles may predominate in quantity at different times. If this view of the subject be correct, it will present to us such extensive sources of variety in the appearance of the matters evacuated, as must shake our confidence in them as a ground of diagnosis; and it is the high importance of this point, in a practical view, that has led me into these observations. That such diversities do occur, even in the most formidable states of the disease, appears from the cases which have been described. In some of them, though they were advancing rapidly to a fatal termination, the evacuations did not differ from the matters discharged in a simple diarrhœa; and, in Case III. the ileum, which was the principal seat of the disease, contained fluid feces in considerable quantity, and of a perfectly healthy appearance, in immediate contact with the diseased parts. Besides the sources of variety now referred to, there are others which may result from the period of the disease in particular cases; for, by repeated copious evacuations, the canal may be cleared of feculent matter, especially in a case in which appetite and digestion are much impaired. In such a case, the evacuations might be first copious and feculent, afterwards scanty, and consisting chiefly of the secretions from the parts, or watery matters, taken as drink, might pass through, tinged by these secretions. The important practical principle which I wish to found upon these observations is, that this highly dangerous and insidious disease may go on with every variety in the appearance of the evacuations; and that it may be advancing ra-

pidly to a fatal termination, while they do not differ from the matters discharged in a simple diarrhœa.

In the preceding observations I have abstained from any allusion to dysentery. The cases from which the descriptions were taken were not considered as cases of dysentery; but, it is evident that many of them show a remarkable affinity to it. On this important subject I cannot speak from experience, and would, therefore, express myself with becoming diffidence; but I would hazard a very few remarks in connection with the subject of this paper. In talking of dysentery, I think we are too much in the habit, in this country, of applying that name to an affection which is distinguished by tenesmus, with scanty discharges of mucus, often bloody, while the natural feces are retained, or discharged in scybalæ, and our principal systematic writers have employed the term in the same sense. But many of the best practical writers on dysentery describe two forms of the disease, which, in regard to the appearance of the matters evacuated, differ remarkably from each other; in the one they are scanty, and consist chiefly of mucus; in the other they are copious, and vary exceedingly in appearance at different periods of the disease, being sometimes dark, watery, and sanious, and sometimes quite natural. Sir James M'Grigor has particularly remarked, that the tropical dysentery, which was so fatal to the troops under his inspection, differs remarkably from the dysentery of Cullen, and ought rather to belong to a class of diseases which he has classed with diarrhœa. "I have ever (he adds) found difficulty in distinguishing dysentery from diarrhœa; and I am inclined to think, that, in Cullen's definition of diarrhœa, is described tropical dysentery."* The testimony of Dr Ballingall is strongly in favour of the same important fact.† In his description of that most formidable modification of the disease, which he has termed Colonitis, he expressly describes the evacuations as being, in the early stage of the disease, generally copious, of a fluid consistence, and without any particular fetor; and, in a private communication, in reply to certain queries which I addressed to him on this subject, he states, that, "at this period of the disease, the evacuations differ only in consistence from natural feces. As the disease advances, important changes generally take place in this respect, the evacuations becoming more scanty, and of a morbid appearance;" that is, probably, after, by repeated evacuations, the canal has been emp-

* M'Grigor's Medical Sketches, p. 184.
† Ballingall on the Diseases of India.

tied of healthy feces, and the subsequent discharges consist chiefly of the morbid secretions from the diseased parts.

Now, in the dysentery of Cullen, as described by Sir John Pringle and Dr Donald Monro, the primary and chief seat of the disease appears to have been the rectum and the lower part of the colon,—in many cases the rectum only; while, in the affection described by Dr Ballingall, the disease, in general, extended as high as the caput cæcum, which, in many cases, seemed to be the principal seat of it, and frequently into the small intestine. I have received an interesting communication to the same effect from Dr Oudney, who, while a surgeon in the Royal Navy, had extensive opportunities of observing the disease in various parts of the world; and I am indebted to him for two dissections of patients, who died of dysentery, with copious stools, the one in an acute, the other in a chronic form. The former was fatal in about five weeks, the stools having been generally copious, and varying very much in appearance, being sometimes slimy, sometimes watery, and sometimes consisting of mucus, mixed with green matter of various shades. There was fever, with rapid emaciation; at first acute pain, afterwards changing into a dull uneasiness over the lower part of the abdomen; and, towards the conclusion, there was a sharp pain, increased by pressure, confined to a small spot in the lower part of the abdomen, towards the right side. There were some superficial ulcerations towards the lower extremity of the colon, but the principal seat of the disease appeared to be the caput coli, in which there were numerous glandular projections, with ulcerated surfaces, and in the ileum, four inches from its lower extremity, there was a portion in a state of recent inflammation, covered with coagulable lymph. There were small abscesses in the liver, and the mesenteric glands were enlarged. The other case passed into the chronic form, and was fatal in four months; the stools having been at first scanty, afterwards copious. They varied very much in appearance, being sometimes very white, sometimes quite natural, and sometimes composed entirely of mucus of a bright brick colour. Towards the conclusion they become very copious, watery, and of a chocolate appearance, often with coagula of blood. The inner surface of the small intestine was covered with innumerable red points; the inner surface of the colon was covered throughout with irregular superficial ulcers. The liver was somewhat enlarged and firm, with one small tubercle in its posterior part. The vessels of the intestines, omentum, and mesentery, were much loaded with blood, and the small intestines contained a small quantity of natural feces.

In referring to the terminations of this disease, I have mentioned a singular fact in regard to it, in infants, a tendency to terminate by effusion in the brain. To call this a translation of the disease, is merely expressing the fact in other words, and leads to no principle whatever; but it is a curious subject of investigation, whether this be an accidental combination, or whether there be any principle to which it can be referred. I have, in a former paper, alluded to a remarkable connection betwixt effusion in the brain, and suspension or great diminution of the secretion of urine, such as occurs in the ischuria renalis. Now, all inflammatory affections of the abdomen are apt to derange the secretion of urine, especially in children, and it is a matter of fact, that a remarkable diminution of it often occurs in this disease, and has been frequently observed to precede the appearance of coma. What is the connection here we know not, and probably never shall know, but that ischuria renalis is followed by effusion in the brain, I consider as a pathological principle, or rather a pathological fact, which is perfectly established. It presents an interesting subject of investigation, whether this principle has any reference to the connection which has often been observed in children, between affections of the bowels and effusion in the brain.

Sect. VI.—*Outline of the Treatment.*

The active form of the disease, especially in its early stages, is to be considered as an inflammatory affection of the most dangerous kind, and requiring to be treated with activity by the usual remedies—especially bloodletting. The first urgency of the inflammation being thus subdued, if the pulse continue frequent, digitalis is given with much advantage, or Dover's powder, in repeated doses; and, after the necessary bleeding, moderate opiates may be given, with mucilaginous articles and absorbents, or opiate glysters. The effect of purgatives is extremely ambiguous. In the more severe cases, they evidently aggravate the symptoms. There may be cases in which it is expedient to evacuate the bowels, as when the discharges are scanty and slimy, with retention of natural feces, but the practice requires caution; and in the more common form of the disease, with copious discharges, they appear to be injurious. Though the evacuations in such cases may be of an unnatural appearance, it is to be remembered, that this is the result of morbid secretions, not to be corrected by purgatives, but by curing the disease on which they depend. When the disease appears to be

seated in the lower part of the great intestine, bleeding from the hæmorrhoidal vessels might probably be useful. When the tormina are severe, with tension of the abdomen, the tobacco injection might probably be employed with benefit. Great attention should be paid to the ingesta; to keep them in as small quantity as possible, and of the mildest quality.

It is in infants that the disease most frequently occurs to us; and there is some difficulty in determining what is the best treatment. This results from the difficulty of distinguishing the disease, so that, when a case terminates favourably, we cannot say, with certainty, that it really was an example of this dangerous affection. In some cases, in which there is no vomiting, a gentle emetic seems to be useful in the early stages; afterwards, Dover's powder, combined with chalk, opiate glysters, opiate frictions, opiate plaster, and tepid bath. In some cases, the free use of digitalis seems to be extremely useful, and blistering on the abdomen. It is worthy of consideration, whether topical bleeding would be admissible in the early stages, when the disease exhibits much activity. In the advanced stages, when there is a tendency to sinking, wine is to be given very freely; when there are threatenings of coma, blistering on the neck should be employed; from both these conditions, infants often make most unexpected recoveries. When the case is accompanied, as it often is, by a peculiar and most ungovernable vomiting, blistering on the epigastrium seems to be the most effectual remedy; and considerable benefit, on settling the stomach, is often obtained from the vegetable bitters, as the powder of colombo root, in doses of a few grains, repeated at short intervals. In the protracted bowel complaints of infants, in which there was reason to apprehend this affection in a chronic form, I have found nothing so useful as lime-water. The teeth are to be attended to, and the gums cut, when they appear to be giving irritation.

In the chronic form of the disease, what we have to contend with is either the chronic fungous inflammation, or ulceration. The treatment is extremely precarious, and very few of the cases end favourably. The remedies to be kept in view, and which appear in some cases to be useful, are chiefly the following: Lime-water, the vegetable bitters, and astringents, especially the cortex cusparіæ and logwood; preparations of iron, as the tincture of the muriat in large doses; small quantities of mercury, with opium; the resins, as turpentine and bals. copaivæ, combined with opium; sulphur with opium; repeated blistering on the abdomen; bandaging with a broad flannel roller; the tepid salt water bath.

A lady, aged 30, came under my care in spring 1813, affected in the following manner: She had a remarkable tenderness of the inside of the lips, the tongue, and the throat; a constant discharge of saliva; a burning uneasiness in the tongue, throat, breast, and stomach; and great uneasiness in swallowing, and for some time after it. She had a constant tendency to diarrhœa, and a feeling, as if food or drink did not remain in the stomach, but passed immediately into the bowels: there was some cough, frequent pulse, great debility, and increasing emaciation. The throat appeared raw, and a little inflamed. The edges of the tongue, and the inside of the under lip, were excoriated, and covered with small ulcers, with inflamed margins. There was a painful excoriation about the anus and the labia. The complaint was of about three months standing, and had begun while she was in the puerperal state in England. A great variety of practice was employed without the smallest benefit. She became wasted and debilitated to the greatest degree. The diarrhœa became incessant, with violent pain, and a feeling as if every thing she swallowed passed through her immediately. She had no relief, but from large opiates; and that relief was but slight and temporary. When the case appeared to be hopeless, she began to take a decoction of logwood, (℥i to lb. i. a wine-glassful four times a day,) with opiates, wine and nourishment. From this time she recovered daily, and in two or three weeks was in perfect health.

II.

Case of Aneurism in the Axillary Portion of the Left Brachial Artery, in which Ligature of the Subclavian was successfully performed. By Robert Liston, Surgeon, Teacher of Anatomy and Surgery, &c. &c. Edinburgh.

On the 31st March 1820, I was asked to see the subject of the following case,—Alexander Gibson, a coachman, aged 35. A soft tumour, the size of a small melon, and of a conical form externally, was situated rather above the level, immediately under and closely in contact with the left clavicle. The pulsation through the whole of it was most distinct, and seemed to extend even above the bone. It could be almost entirely commanded by firm compression with the finger on the vessel at the side of the neck; but all attempts of this kind, after he came under my care, were abstained from on account of the excruciating agony produced by them. The pain thus

caused had previously deprived him entirely of rest; indeed, the paroxysms were so extremely violent, that he could sometimes be with difficulty retained in bed. The whole arm and fore-arm were benumbed, the hand slightly œdematous, and the circulation in the limb very feeble. The constant torture, greatly aggravated at night, referable to the stretching of the axillary plexus of nerves over the parietes of the tumour, increased by the frequent handling and pressure, had almost entirely made sleep a stranger to him for many weeks. He enjoyed a little rest only after being quite worn out and exhausted by suffering, and with the assistance of from two to three drachms of laudanum. His shrieks are described by his wife to have been dreadful, so as even to alarm the neighbourhood.

The origin of the disease he refers to a fall from the high foot pavement upon the street five months ago, in which he pitched on the shoulder. Since that time he has complained of what he supposed to be rheumatism in that extremity. The tumour was only perceived six or seven weeks ago, during the process of rubbing the parts with some anodyne. It was small comparatively at that time, but has made its way gradually towards the clavicle, where little resistance is afforded by the loose fatty matter betwixt that bone and the pectoralis minor. The variety of medical men who have seen him, and the consultations on his case, have been innumerable. For some time he has been confined to the horizonal posture, bled repeatedly, purged, and religiously starved, according to the plan of Valsalva. So strictly was this fast observed, that, at one time, to abate his thirst, he was allowed only two oranges during twenty-four hours. Nevertheless, in spite of all this severe discipline, the tumour increased with great rapidity, and seemed to be extending above the clavicle, which it had very considerably displaced upwards. When he came under my care I immediately proposed the operation as his only hope of life, at the same time representing the chances for and against him. He instantly agreed to it, but insisted on its being delayed to the 3d of April, which I unwillingly consented to.

On that day, having placed my patient in a proper light, with his head slightly raised by pillows, I commenced my operation by a division of the integuments immediately above the clavicle, in a line with it, and about two and a half inches long, and another incision on the outer side of the sterno-mastoid muscle of one inch and a half, falling perpendicularly upon the middle of the first. The two flaps were then dissected back so as to expose the external jugular vein, which, as lying in the way, was cut across, and the lower orifice (that pointing upwards)

which alone bled, secured. Though I had determined to tie every vessel of consequence as I went along, still I was unwilling to put ligatures on the veins if I could possibly avoid it. The other orifice of the jugular, as it gave no trouble, was therefore left untied. In this stage of the operation, the transversalis humeri or supra-scapular artery, was necessarily divided and tied; after dividing part of the omo-hyoideus, I then pursued my dissection to the level of the axillary plexus of nerves. Having cut carefully on their anterior surface so as to feel pulsation distinctly, and detaching what I imagined to be the artery, I passed a ligature round it. I then carried the ends of the cord through a *serre ligature* so as to ascertain if, by compression of this body, I could stop the circulation or not. In doing this, one of the sides of the ligature was cut through in the eye of the instrument, which had not been properly rounded off, but at a considerable distance from the bottom of the wound. Having laid hold of the end again, and ascertained that one of the nerves, to which the pulsation had been communicated, was surrounded instead of the vessel, I retained the ligature for the purpose of holding the parts out of the way, till by a little cautious dissection I exposed the artery as it passes through the scaleni. Here, however, I had reason to believe the vessel unsound, partaking so far of the aneurismal dilatation, and determined on securing it nearer the heart. In this part of the operation, I received the greatest assistance from the spatulas recommended by Dr Colles of Dublin. I was indebted to an old pupil of his for a set of them, which he brought me before the operation. Those I used were made of sheet copper; they are so soft as to be bent easily to any shape, which they retain. With them my assistants, whilst their hands were out of the way, were enabled to hold aside the surrounding soft parts on all sides, so as to protect them from the knife; to prevent oozing from the small vessels; and, at the same time, give me a complete view of the bottom of the wound. These spatulas are of the greatest use in the ligature of all deep-seated vessels, the iliacs, &c. or in any deep dissection whatever. In fact, I consider them as the greatest addition made to our surgical instruments for many years. Having thus, then, gained a view of the vessel, and ascertained its condition, I proceeded cautiously to divide the scalenus anticus. Having cut through its whole thickness, to about its middle, in order to avoid the phrenic nerve, I contented myself with denuding the artery by separating those fibres next it, leaving the more superficial ones entire. In this way, as if by burrowing under the muscle, the artery was fully exposed for the passage of the

ligature. This part of the operation, which, by all who have attempted it, is considered the most difficult, and for which so many proposals have been made and instruments invented, was at once accomplished with the simple needle, which I had employed in many cases of aneurism, in different situations, previously. For a number of years I had practised this operation, as well as others, on the dead subject; and, from the repeated trials I had made, was satisfied that, even in great deepening of the wound from elevation of the clavicle, I should be enabled more readily to achieve my purpose with this instrument than with any other, of whatever fashion. The difficulty appeared to be, not in bringing up the point of the needle so as to catch the loop of the ligature, but in getting it beyond the vessel. This is readily accomplished with the instrument I used, and which is delineated in the accompanying plate. From its construction at the point, as soon as this can be seen or felt, the ligature is immediately laid hold of by the hook or forceps. Having passed the needle, armed with a strong round silk ligature, under the vessel with but little difficulty, I soon exposed the point, by rubbing the cellular substance betwixt it and my finger, and, with a small hook laying hold of the loop, withdrew the instrument. I then, by tightening the two ends of the cord, and pressing with my finger betwixt them, so as to command the pulsation, assured myself that the ligature was properly placed. From the very great depth and contracted nature of the wound, it was impossible to draw the knot with the fingers, and accordingly it became necessary to have recourse to some mechanical means. The purpose was fully answered by the very simple contrivance of my friend Mr Nasmyth, who obligingly assisted me at the operation. The instrument and mode of using it is shewn in the plate. We had previously tried it on the dead body, and ascertained its efficacy. The ligature was thus easily secured by a reef knot, with the effect of immediately arresting the pulsation in the tumour and wrist. The patient bore the operation with the greatest courage; with all the preparations, removal, and replacement in bed, it occupied about half an hour. The wound was brought together by three stitches, and covered with dry lint.

The constitutional derangement consequent to the operation was but slight. The pulse, in any part of the body, never was much above 100; nor did the action of the heart or large vessels seem at all disturbed. The patient was instantly relieved from pain, so as to sleep with but a very small dose of laudanum, (one-third of what he was in the habit of taking without ef-

fect,) and the heat of the arm was never at all lessened. The pulsation in the tumour returned on the day after the operation, shewing the great activity of the anastomosing vessels, but disappeared again entirely in two days. On the fourth day, I dressed the wound, and found it adhering completely; but a little matter oozed along the ligature, with some small clots of blood. Next morning, betwixt twelve and one o'clock, I was sent for on account of violent hæmorrhage. On my arrival, I found him a good deal exhausted, and surrounded with blood, apparently venous. On opening the wound, the stream was perceived to issue from the upper orifice of the external jugular, which had given way on some slight exertion, after the clots had been removed by the suppuration. A firm graduated compress was applied on the parts, and a little wine and water given him, which was continued to the extent of a few ounces every day, to bring about his strength again. No other unfavourable occurrence took place. The ligature separated on the twelfth day from the operation, which demonstrates satisfactorily that nothing but the vessel was included. At this period, a kind of thrilling could be felt in the radial artery, which has increased to pretty distinct pulsation. Three weeks from the operation, he begun to sit up a little in bed; a month after it he walked out; and to day (May 8th) the wound is completely cicatrized. The tumour is greatly diminished in size, and his health is rapidly improving. He walks out daily, entirely free from pain, and sleeps without an anodyne.

The detail of this case must, I doubt not, be interesting, as being the only successful one out of a considerable number operated on in Great Britain. The success met with will, I hope, encourage others to repeat it, and many patients may they thus save from an inevitable and dreadful death.

Explanation of the Plate.

Fig. I. exhibits the mode of tightening the knot of the ligature by means of the instrument.

Fig. II., which may be made of strong brass or iron wire.

Fig. III. represents the needle alluded to in the description of the case. It is made of soft and malleable iron, and may be put into any shape, though the slight curve here shewn is generally preferable. It will be observed, that the eye is small and close to the point, which is as sharp as it can be made without having a cutting edge. Both instruments are very considerably reduced in size.

Ed. Med & Surg Journal N° 64. Page 362.

Instruments Referred to in Mr Liston's Case of Aneurism.

Fig. 1.

Fig. 2.

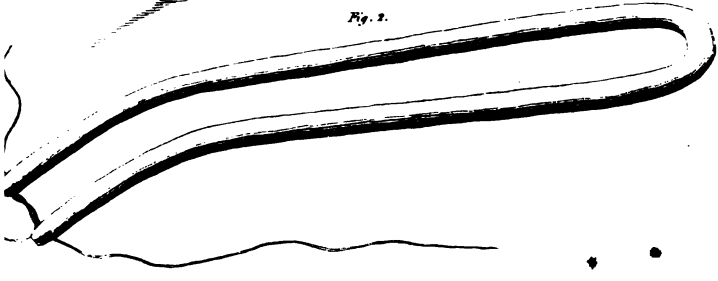
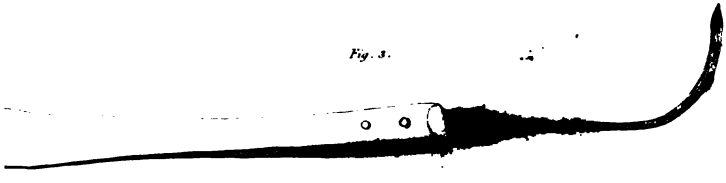


Fig. 3.



Engd by W.H. Lizars

Published by A. Constable & Co 1820.

III.

Case of a Wound of the Throat, in which the Trachea and Œsophagus were divided across, and which did not terminate fatally, although the parts have not reunited. By JOHN GAIRDNER, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

ON Thursday 23d of July 1818, H—— R——, prisoner in Edinburgh jail, was found, by the turnkey who opened his cell in the morning, weltering in his blood, which had poured out profusely from a wound in the anterior part of his neck. It appeared to have been inflicted by means of a razor, which was found near him. It was in a transverse direction, five inches in length, and had apparently been effected by several applications of the weapon; for three several impressions of it were distinctly traced upon the right side. The larynx was divided quite across at the upper part of the cricoid cartilage, and the cut extremities had receded from each other to the distance of at least three inches. The breathing was much affected by the position of his head, being easiest when it was a good deal inclined forward, and much impeded by all attempts to raise it or incline it backward. This was easily accounted for. The divided integuments formed a loose flap, behind which the inferior of the two divided extremities of the windpipe had retracted, and, accordingly, whenever he threw his head back, this valvular flap of skin was tightened. A considerable quantity of blood had got into the windpipe, which caused much coughing and impediment to his breathing, and was every now and then forced up in considerable quantities. To the great majority of the readers of this narrative, it will be unnecessary to add, that the carotid arteries and veins, and with them the great nerves that lie behind them, the par vagum, and the great sympathetic, must have escaped, which could not have happened had a wound of equal extent been inflicted a little lower down, where these important parts lie nearer to the windpipe. It is probable, too, that another circumstance contributed to their safety, viz. that, after cutting through the integuments, he had made use of the point of the razor, expecting that, by penetrating deeper, he would make the wound more effectual: the depth of the wound towards the spine appeared so great as to justify this conclusion.

There was much paleness of the countenance, and faintishness, together with a pulse about 50, somewhat intermittent and variable.

The patient was removed from his cell, and placed in a large room, with a free circulation of air and proper attendants. Attempts were made to bring the parts together, but they instantly produced a violent struggle for breath. He swallowed a little milk, which immediately passed out at the wound, and shewed that the gullet had also been laid open, and from the distance to which it had retracted, the medical gentlemen present were all of them satisfied that it had been entirely cut across.

The following day (24th) we attempted to pass an elastic gum tube into his gullet from the nose and from the mouth, but all our endeavours failed from the intolerable irritation and coughing which the presence of the instrument excited. We were, therefore, forced to abandon the attempt for the time, though with considerable reluctance, as it destroyed all expectations of getting the wound in the gullet, or any part of it, to unite by adhesion. He was this day much better. Pulse about 100; breathing freer; bowels open. The use of nutritious glysters was commenced this day, and continued three times a day for several days after. Each enema contained a proportion of tinct. opii, to prevent its being returned.

On the 25th, in order to prevent the larynx from retracting too much, and acquiring new adhesions in the retracted state, we approximated its cut extremities by means of two ligatures, one on each side, the under end of each of which was passed between the cricoid cartilage and the first ring of the trachea, and their upper ends through the soft parts immediately surrounding the thyroid; this operation excited a good deal of coughing and irritation, and it is remarkable, that the upper part of the larynx seemed to be exceedingly irritable, so that when it was touched internally cough was always excited, although the breath had ceased to be transmitted through it,* and notwithstanding that the recurrent nerves must have been divided. The retracted larynx being now brought back into nearly its original position, we discovered that there was another opening in the windpipe, between the cricoid cartilage and the beginning of the trachea, of the existence of which we

* This remark was made during the operation, and of course before the ends were approximated to each other.

were not before aware,* and through which the patient breathed freely. His pulse this day was 108.

On the 26th and 27th he was tolerably well. Pulse varied from 120 to 106. He had a little pain in his breast, which went off. He drank water occasionally, to wash his mouth and relieve his thirst. On inquiry he informed us, by writing, that very little of it, or none at all, went into his stomach, but that he thought a little air went through his nostrils occasionally. He complained much of thirst, but did not suffer from the sensation of hunger.

On the 28th we discovered that the two ligatures had separated from their superior attachments, and that the windpipe had retracted, though not so much as formerly. He was pretty well; pulse 106. He drank water freely and frequently, holding his head forward in a horizontal position to allow it to pass out at the wound without getting into the trachea. This practice had certainly been the main cause of the ulceration and separation of the ligatures, by the incessant action of the muscles of the throat which it produced; for, on inquiry, we found that he indulged to such an extent his desire for swallowing water in this strange manner, that he used several buckets-full in the course of the day. The enemata had hitherto been regularly received, and must have afforded him a good deal of nourishment, for they were always retained; but this evening he objected to the enema, alleging that it gave him pain. It therefore became extremely desirable to get some nourishment conveyed into his stomach; and the retraction of the trachea afforded a good opportunity for attempting this, by the introduction of a tube from the wound into the inferior of the two divided ends of the gullet. This was by no means an easy task, on account of the difficulty of distinguishing the different parts on the surface of the wound, buried as it was behind the flap of skin already mentioned. It was accomplished, however, the following morning by Mr Bryce, by means of a full-sized catheter of elastic gum, with a stilette of flexible metal. The stilette being withdrawn, a quantity of milk was poured into the stomach by means of a bladder. From this time forward, he had strong beef-tea poured into his stomach several times a day, through a tube introduced into the wound, also a considerable quantity of milk. For some days he complained a good deal of thirst, but this was much abated by giving him a quantity of very weak spirits and water; and

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* Another proof that the wound had been accomplished by at least more than one incision.

as he had been formerly accustomed to the free use of liquor, he was after this allowed daily about two ounces of common malt spirit, mixed with about five or six times the quantity of water.* His pulse soon became quite natural, his bowels kept pretty open, and the wound presented over its whole surface the appearance of healthy granulations. A question of considerable importance now occurred, whether or not it would be advisable to attempt the reunion of the gullet, preserving at the same time the means of nourishing him during the time of the cure, by means of a tube introduced into it through one of the nostrils; but as it was deemed extremely improbable, from the distance to which the divided ends had retracted from each other, that he should ever regain the power of swallowing, and as it seemed certain, that the part where the reunion took place must necessarily be very narrow, and that he must continue through life to receive his nourishment by a tube of small dimensions passed through one of his nostrils, and, moreover, as we possessed a facility of withdrawing and re-introducing the tube, which we could not expect to find after the reunion of the gullet, it was judged better to make no such attempt.

On Sunday, August 9th, he had a considerable degree of difficulty of breathing, accompanied with cough. He was bled twice, and took a dose of senna without much relief. On the following day, he had much dyspnœa and wheezing; and it was found that the trachea had retracted a good way into the wound, which was healing and contracting around it. The contraction of the integuments went on so rapidly, that by night he was in danger of suffocation, to prevent which Mr Gall was forced to introduce a piece of œsophagus tube of elastic gum into his windpipe. It was always found necessary afterwards to have some tube there, for a recurrence of the same obstruction and danger was the inevitable consequence of its omission, even for a few hours. To get free of this contracted state of the integuments, and for the more convenient introduction of the tube into the trachea, it was necessary to make an incision perpendicular to the direction of the wound, through the flap of skin which formed its lower lip. This was done by Mr Bryce (on the 10th) with the greatest caution, for fear of producing hæmorrhage from the thyroid gland.

From this time he continued to recover rapidly, and still receives both breath and nourishment through tubes introduced by the wound in his throat. For the former, a curved funnel-

* The quantity of spirits was afterwards very considerably increased.

shaped silver tube has been found the most convenient contrivance; and it is remarkable, that, from its first introduction, its presence has occasioned no irritation. The shape of this tube, it may be of importance to describe particularly. The extremity which projects from the wound is about five-eighths of an inch in diameter. It becomes narrower as it proceeds inward, and is then curved downward. After the curvature it again becomes straight, and the direction of the last portion of it is at right-angles with that of the first. The bore of the tube at its lower end is a little elliptical, the diameters being seven-sixteenths and three-eighths of an inch respectively, and the small diameter being from behind forward, the great from side to side. The tube is secured in its place by means of a ribbon, which passes round his neck, the ends of which are put through two broad silver eyes in the margin of the outer end of the tube, which projects just far enough to be above the level of the skin. This tube is taken out every time he receives nourishment, for the purpose of more easily introducing into the opening in the gullet (which lies immediately behind the opening in the windpipe) a tube of elastic gum. To the end of this tube, which is of great length, * and of the diameter of the largest catheter, a small tin funnel has been fitted in such a way, that it may be removed and replaced at pleasure. The tube of the funnel is bent in a horizontal direction for his greater convenience, and the broths, &c. pass into his stomach by means of the pressure of the column of fluid in the funnel. After his meal is over, the tube is removed, and the silver one introduced again into the trachea.

When he had recovered sufficiently to be able to appear in court, he was brought to trial on a capital indictment, acquitted, and liberated from the jail in November 1818. At that time he was somewhat feeble and thin from his long confinement. He was unable to feed himself, and was indebted to Mr Gall and Mr Sibbald for their skilful assistance at all his meals, and for changing his tubes in the manner already described. He has since, however, happily for himself, acquired the art of managing his tubes, and accomplishing his meals without assistance.

In the month of March last, he paid a visit to Edinburgh, (having been for some time previously in the country,) in order

* The length of this tube is a matter of convenience, and not of necessity; for the liquids which constitute his nourishment pass quite readily into the stomach, when the tube is introduced two inches within the gullet.

to have the opinion of his medical advisers as to the practicability of enabling him to swallow again by the mouth. Dr Thomson and Mr Turner were also called into consultation on this occasion. After the fullest consideration, it was determined not to try any means for effecting this, for reasons similar to those which had formerly induced us to give up thoughts of it, and which have been already stated. It is worthy of remark, that, notwithstanding the singular manner in which he received his food, he was at this time strong, and even fat, and of a good colour; that, in short, he had all the appearance of a person enjoying excellent health. He walked about with as much freedom as ever, the wound being concealed from observation by a handkerchief tied round the neck, loosely enough to admit of his breathing with freedom.

The following additional facts will render the case more interesting in a physiological point of view:

During each meal, and immediately after it, there is a very profuse discharge of saliva from the mouth, amounting to from five or six ounces to eight ounces, or even more, and generally most profuse when the food is very hot.

He still preserves the sense of smelling in a very considerable degree, probably from his possessing the power of producing a current of air through the nostrils, by the action of the muscles of the mouth and tongue.

He possesses also a power of articulating to a certain extent, —very limited, of course, and without the slightest degree of LARYNGEAL sound. This power also must be owing to his taking a little air into his mouth, by the muscles of which it is expelled in the attempt at pronunciation. For instance, if a question be put to him which may be answered by the monosyllable YES, his tongue, and teeth, and lips, perform that succession of actions, which, in the sound state of the parts, would be necessary for its distinct articulation, and the word, or rather the letter S with which it concludes, is heard as in a whisper.

No case can be better authenticated than this, as, being almost as remarkable in its legal as in its surgical peculiarities, it attracted very general attention.

That the case terminated favourably, I consider to be mainly owing to the unremitting and skilful assistance of Messrs Gall and Sibbald, who resided near to the place of his confinement, and were most assiduous in their attention to him at all hours The former, especially, saved him on three different occasions from immediate suffocation, produced, in two instances, by the contraction of the wound, and, in the third, by the slipping of part of his apparatus, and fed him four times a day during the

whole time of his confinement, and for some time after his dismission from the jail.

His medical attendants, besides these gentlemen, were Dr Farquharson, Mr Bryce, and the author of this brief account of the case, all of whom saw him from the first. Dr Monro favoured us with his advice very soon after that period, and frequently attended at our consultations. And Dr Thomson and Mr Turner, as has been already stated, were afterwards consulted.

Edinburgh, March 20, 1820.

IV.

On Blood-letting in Dropsies. By Robert Lewins, M. D. Physician, Haddington.

Dr Blackall, in the preface to his most excellent work on Dropsies, has remarked, that dropsy of the same cavity is not always the same disease. The value of this observation, as well as the truth of it, will be acknowledged by the practical physician. Every one in the habit of treating dropsies, must have been puzzled and perplexed to find very different effects produced by the same remedies, in diseases apparently the same; but when we know that effusion of water in the different cavities of the body is sometimes the effect of inflammatory action, or at least is combined with this state, and sometimes the result of relaxation and debility of the system, we can very readily conceive how the remedy, which at one time will do good, may at another be inert or even prejudicial.

General debility, and in consequence of this, laxity of the exhalants, has generally been considered the proximate cause of dropsy, and the practice of physicians accorded with this notion; phenomena, however, frequently presented themselves to accurate observers, which by no means corresponded with the received doctrine.

Dr Baillie noticed, in an anasarcous patient, the cells loaded with an effusion imperfectly coagulated and lymphy, and he has also seen the membranes covered with an inflammatory crust, even where there had been a true dropsy of the cavity. Similar appearances presented themselves to other medical practitioners; but still it does not appear that much practical application was made of this knowledge, at which we may be the more surprised, as the very practice which these appearances would

naturally have suggested, is as old as Hippocrates, although some writers of the present day seem to suppose that it was never thought of until the year 1818. Blood-letting was recommended as a powerful remedy in a dropsy by the father of physic. Celsus, when treating of hydrops, says, "Si febris quoque est, hæc in primis submovenda est per eas rationes, per quas huic succurri posse propositum est: si sine febre aeger est, tum demum ad ea veniendum est, quae ipsi morbi mederi solent." From this we are almost led to suppose, that venesection was one of the remedies he employed.

Paulus Æginetus practised blood-letting in dropsy. In the course of the sixteenth, seventeenth, and eighteenth centuries, the same practice was recommended by different practitioners, amongst whom we find Trallian, several physicians of Florence, Hoffman, Burserius, Lieutaud, Spon, Stock, Home, and Grapengiesser. Hoffman had recourse to blood-letting in every kind of dropsy except that of the belly; and he tells us, that he did so "multiplici edoctus experientia." In Vol. III. of his works he discusses the question "num venæ sectio in hydrope probabit," and answers the question in the affirmative.

Lieutaud was aware of the efficacy of blood-letting in dropsy; and expressly mentions, that, if the disease has arisen from suppressed discharges, if it occur in youth, or occasions difficulty in breathing, the cure may be begun by blood-letting. Dr Cullen has quoted * what Lieutaud has said concerning blood-letting in dropsy, to prove that the French physician wrote without method; it may be so, but it must be allowed, that a patient labouring under dropsy had a better chance of being cured by the practice of Lieutaud than by that of Cullen. The want of precision, of which Dr Cullen complains, in this instance at least, in all probability, arose from Lieutaud having but an imperfect knowledge of what he was writing about; he was convinced, by experience, that blood-letting afforded relief in dropsy; but he was not quite certain as to the particular cases in which it might be practised with advantage.

Spon states, that he had frequently seen dropsy cured by venesection, which had been aggravated by mercury and diuretics.

Dr Grapengiesser, I believe, has treated this subject more fully than any other writer; but I have never been so fortunate as to see his work.

In 1811, Dr Blackall published the best book we have on

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* Preface to the First Lines.

dropsies, in which he has endeavoured to show under what circumstances it is proper to practise blood-letting in these diseases; and he has suggested the propriety of inquiring accurately into the state of the urine in dropsical patients.

The opinion which I entertained eight years ago of the efficacy of blood-letting in the scarlatinous dropsy, may be known by what I have said on the subject in my inaugural dissertation, which was written in 1812. "Valetudo adversa, occasio cujus est scarlatina, sæpe percellit atque negotium facit morbus postquam cessavit: sæpenumero in locum ejus hydrops dirus succedit, qui vitam ægri in discrimen adducit, et quod inexplicabile videtur, gradus effusionis serosæ morbi præeuntis violentiæ minime respondet. Ægrotantem novi huic valetudini adversæ immolari, quæ originem a prægressa scarlatina traxerat, adeoque etiam miti, ut auxilium medicum nunquam necessarium videretur. Hic morbus subsequens idem ac hydrops vulgaris non est spectandus; aliquantulum actionis inflammatoriæ effusioni præiri observatur, quæ adhuc durat etiam quum haud paullulum laticis sese a sanguine secreverat. Hoc morbo, sicuti in morbis aliis qui vasorum actionem intendunt, sanguis mittitur fausto cum exitu, et si hirudines ad jugulum applicemus, eamque ad partem faucium inferiorum in qua tumor cernitur (quod multum periculi portendit) ægroto sæpe opem feremus, effusionemque impediemus."

Dr Abercrombie, in a late number of the Edinburgh Medical and Surgical Journal, has made some valuable observations on the efficacy of venesection in this kind of dropsy. The cases which I subjoin are additional proofs of the benefit to be derived from the practice he has adopted. In one of my cases, blood-letting was carried further than it has ever been before, under similar circumstances, with the most gratifying result. Indeed, I scarcely ever treated a disease where the effects of the remedies were more prompt and satisfactory, or where the relief was more evidently the immediate effect of what was done.

I was called on the evening of the 24th of December 1818 to the son of Mr D. a robust boy of five years of age. He had complained of headache, sore throat, and general derangement, a fortnight before this time; but the symptoms of disease appeared so slight, that no alarm was excited, nor did his parents think it necessary to seek medical assistance for fourteen days from the time he was taken ill. For twenty-four hours past he had been uncommonly restless, and complained of severe headache, pain over his whole body, and of thirst. Tongue dry, and of a deep red colour; pulse 112, respiration hurried; belly, by account, regular; urine scanty, and of a muddy appearance; legs and feet swelled, but felt tense, and did not pit much upon pressure.

Ordered some powders, composed of nitrate of potass and squills, to be taken at intervals during the night, with the intention of increasing the secretion of urine. On the following morning, I was surprised and mortified at the change which had taken place for the worse. His whole body was swelled, and his face in so great a degree that no one could have known him; pulse 130; respiration laborious; secretion of urine totally suppressed; V. S. ad ℥ viij. et habeat pulv. jalapæ c. gr. xxv.

In the afternoon he was somewhat relieved, and voided a little urine, which was like tar. Blood sizy. Prescribed mercury, digitalis, and squills, which he continued to take for some days without any good effect. Dec. 28.—Ceased to use the digitalis, &c. and ordered four leeches to be applied to his ankles, and a dose of jalap and calomel. 29th—P. 126; respiration still laborious; urine very scanty. Applied four more leeches. On the 30th, he was greatly relieved in every respect.

On the 2d of Jan. 1819, I was called to him about midnight, and found my patient in a state truly distressing. His breathing was more laborious than ever; he could not remain a moment in the horizontal posture; and he was tormented with a short dry cough; pulse 130; great increase of swelling over his whole body. V. S. ad ℥ x.

Jan. 3d.—Greatly relieved, and able to remain in a horizontal posture; pulse 118; cough much less troublesome; urine increasing in quantity, but still very unnatural in appearance; blood sizy, with a firm crassamentum, and a larger than usual proportion of serum; belly rather bound. Enema domestic. inject. quam primum.

Vespere. Continues to improve.

4th.—Has slept well during the night; respiration still easier; pulse 110; cough almost gone; urine continues to increase, but still dark-coloured; belly regular.

5th.—Continues to recover; pulse 110; cough gone.

6th, as yesterday.—From this time he gradually recovered; the urine increasing in quantity, and all the functions acquiring their former healthy state; but so great was the shock which he had received, by the violence of the disease, and by the measures which it was found necessary to have recourse to, that it was some months before he completely recovered his strength.

In the above case, we have a striking example of the good effects of blood-letting in the dropsy after an attack of scarlatina. There is no doubt but my patient had laboured under that disease, although the eruption was scarcely noticed, and had disappeared before I was called. His tongue had the particular appearance so characteristic of scarlatina; the disease was prevailing epidemically in the town at the time; and attacked the other children of the family. Little or no advantage was gained from the use of diuretics; the cure is to be attributed to the bleeding alone. Considerable advantage was, no doubt, derived

from the laxatives which were administered, both during the continuance of the disease, and during convalescence; but still the merit of having saved the patient's life is due to the lancet.

In this case there was a very striking resemblance to the fatal case which I allude to in my Thesis; the age of the children was nearly the same; both had laboured under scarlatina, so mild that medical assistance had not been required; and, in the subsequent malady, the symptoms were alike.

In the case that terminated fatally, the most active diuretics and purgatives were most perseveringly employed—mercury, digitalis, squills, calomel, compound powder of jalap, &c. &c. but without effect; the patient sunk under the violence of the disease. Upon dissection, a vast accumulation of water was found in every cavity of the body, and there were observed the most unequivocal signs of inflammatory action. This case made a lasting impression on my mind; and my practice in Mr D.'s son was influenced by a recollection of what had happened in the former. I have much reason to be satisfied that it was so; for, had I trusted to diuretics, I am convinced that I would have had an opportunity of proving by dissection that, in this case also, a highly inflammatory state had existed.

Case II.—T. M'N. æt. 4, laboured under scarlatina, in what was considered a very mild form, a fortnight ago. About three days since, he was observed to be anasarcous, and complained of headache; in the night, especially, he is restless, and groans in his sleep. His whole body is swelled; pulse 125; respiration laborious; belly bound; urine very scanty, and in appearance like dirty water. V. S. ad ℥viij. et habt. stat. submur. hydrarg. gr. iij.

May 13, 1819.—Much relieved; pulse 100; respiration easy; blood sizy; quantity of urine increased; vomited immediately after taking the calomel; belly only once moved since yesterday.

℞ Pulv. jalapæ gr. xv. mox sumend.

May 14th.—Continued to improve. Pulse 94. Urine increases.

15th.—Slept well last night. Pulse 90; respiration free; urine about natural in quantity, but still dark-coloured. Purgative operated well.

18th.—Continues convalescent.

20th.—Free from complaint, and urine natural both in quality and quantity. In this case I determined to attempt the cure without using diuretics, and succeeded. A single bleeding was sufficient to break the force of the disease, and, in the course of a few days, the boy was free from complaint. Blood-letting appeared to have a direct effect upon the kidneys; scarcely any urine was voided for twenty-six hours before I saw him, but in the course of a few hours after he was blooded, he began to void urine, and from that time it increased rapidly.

Case III. August 11, 1819. Mr B.'s son, æt. 6, after a mild attack of scarlatina, complained of violent pain in the right side of the neck, where a considerable swelling is observable. Pulse 116; respiration quick. Belly, by account, natural; urine rather scanty and dark-coloured.

Applicentur quatuor hirud. parti dolenti, et habt. calomelanos gr. iii. h. s.

12th.—Continues nearly as yesterday.

13th.—Still complains of pain in his neck. Pulse 116; urine still dark-coloured, but a little increased in quantity; belly regular.

Applicentur hirud. iterum.

14th.—To-day he is decidedly better. Pulse 108; urine increasing, but still dark-coloured.

15th.—Continues to improve in every respect. Urine natural in quantity.

17th.—Convalescent. Urine natural in colour and quantity.

21st.—Free from complaint.

In this case the symptoms were more mild than in either of the preceding; general bleeding was therefore not deemed necessary.

I fear we are not yet able to point out, with sufficient accuracy, the particular kinds of dropsy in which it is always necessary to have recourse to blood-letting. From my own experience, I would certainly say it is always so in the *scarlatinous*, that is, when the disease resists the ordinary mild remedies which Dr Cullen recommends. Dr Blackall, however, who is high authority on this subject, is of a different opinion. When speaking of scarlatinous dropsy, he says, "digitalis is the sovereign remedy. I know of no instance where it has failed when properly exhibited, and I add, without fear of contradiction, that it is almost equal to any emergency short of that destruction of parts which admit of no cure." He, however, qualifies this, perhaps too confident, assertion, by a confession of his favourite digitalis having failed in a case where it was given so as to retard the pulse, but the symptoms of disease seemed to be aggravated by its use.

In all cases of dropsy, it is the duty of the physician to ascertain if there be symptoms of inflammation in any internal organ, and, when that is the case, it must be subdued of course by venesection. When dropsy is unattended with unequivocal symptoms of inflammation, there may be a doubt about the propriety of using the lancet. From my own experience, and from what I have collected from others, I would say that blood-letting is proper in most, if not in all, dropsies that have suddenly appeared, whether from the application of cold to the

body, or from any other cause. In all cases where there is much difficulty in breathing, if the patient be young and robust, and certainly when the pulse is hard and cordy, the complexion florid, and the œdematous swellings do not pit much on pressure.

Dr Blackall has endeavoured to direct the attention of medical practitioners to the properties of the urine in dropsical patients. Our knowledge of this subject is not yet sufficiently matured to lead to any practical advantage, but the investigation suggested by Dr Blackall is certainly highly deserving the attention of the physician.

I regret that I did not try the effect of heat on the urine of Mr D.'s son. The boy M'N.'s did not coagulate by the application of heat, nor was there any precipitate by the addition of nitric acid. Upon evaporating an English pint, a small quantity of fetid saccharine matter was obtained. The same means produced the same result on the urine of Mr B.'s son.

North Berwick, August 30, 1819.

V.

Case of Parturition, rendered difficult by a Tumour within the Uterus; which was extirpated successfully. By Mr James Bell, Surgeon, Forres.

Mrs B——, aged 32 years, healthy, of small stature, but well formed, became in labour on the evening of Friday the 23d July last. On Saturday morning, an experienced midwife was sent for, and continued in attendance. On the afternoon of Wednesday the 28th, I was desired to visit her, and had the following account of the case from the midwife: That the pains had been irregular, sometimes pretty strong and frequent, at other times weak, and at long intervals;—that she had passed urine freely, but had no alvine evacuation;—that several attempts to throw up a glyster had been made without success;—that the os uteri was fully dilated, and that the membranes had, at an early period, given way. I found my patient's pulse good, that she had no headach, sickness, or any other complaint, except what arose from the labour pains. On examination, I found the os uteri dilated; the head of the child resting on the brim of the pelvis, could be touched with the fore-finger; but at the posterior part, over the rectum, I felt what I conceived to be the apex of a fleshy tumour, projecting a little without the

uterus, firm and unyielding, and interrupting free access to the child's head. Finding it impossible to alter the position of the tumour, and unable at this time to ascertain either its size, mode, or place of attachment, the labour pains also being trifling, and exerting no influence on the uterus or its contents, I determined to give an opiate, and wait its effects. It suspended the pains, and procured some sound and refreshing sleep. About five o'clock on Thursday morning the pains began with some force and regularity, and the tumour advanced a little. I now endeavoured to ascertain its size and origin, and found it filling all the back part of the uterus, (as far as I could reach,) and completely preventing the advance of the head. I tried again to push it up, but found it absolutely impracticable. Finding all my endeavours to push back the tumour, and to expedite the delivery in this way, ineffectual, I was at a loss how to act. Had I cut off the part of the tumour within my reach, even if it could have been done without risk of hemorrhage, (which, from its size, seemed likely to be profuse,) no advantage could have been gained, as the greatest part of the mass was still within the uterus. The child could not have been delivered by the feet, as it was impossible to pass a finger between the head and the tumour. The head was beyond the reach of the forceps, the application of which, even if it had been lower down, was impracticable. The lever was inadmissible. The operation of embryulcia also was, by the peculiar circumstances of the case, rendered both doubtful and dangerous. As there was no certainty of the child's death, nor as yet any other bad symptoms in the woman than those already mentioned, I determined to wait and trust a little longer to the assistance of nature. The pains, although weak, continued, with some advance of the tumour, till eleven o'clock A. M. of the 29th; they then ceased, and did not return for some hours. About two o'clock P. M. they again came on, and the tumour advanced. Hitherto there had been no flooding, now it came on in considerable quantity; the pains again ceased, and never returned. I now endeavoured to assist the expulsion of the tumour, by grasping that part of it within my reach, and gently pulling it from time to time. The hemorrhage ceased, and I at last succeeded in bringing the bulkiest part of the mass without the parts. I now found that it was attached by a neck; but this neck, instead of being slender, as I had hoped, was, to my great disappointment, so thick that I could scarcely grasp it. I also ascertained that the occiput lay towards the left, and the face towards the right sacroiliac synchondrosis. It still being impossible to deliver by turning, by the lever, or the forceps, and the woman having become extremely restless, and her pulse very quick, I determined to per-

forate the head. This, owing to my being unable to guard the perforator with my left hand, was exceedingly difficult. I at last succeeded, opened the head, took away in pieces the ossa parietalia and greatest part of the brain, introduced the crotchet, but could not draw down the head. I therefore resolved to wait some hours. She had some sleep. At three o'clock A. M. of Friday, I brought away the child with considerable difficulty. About half an hour afterwards, the placenta, which was attached to the fundus uteri on the left side, was removed. The flooding, at first considerable, soon became moderate. I tied two ligatures round the neck of the tumour, gave the woman an opiate, and left her. Next day, I cut off all that part of the tumour below the ligatures; very little blood followed; that same night the neck came away, in a state of putridity, (as I was told,) while passing urine. Of the after treatment of the patient, it is unnecessary to say much. Her bowels were opened by gentle laxatives. The fetor of the discharge was corrected, and every other attention, which the case appeared to require, was paid. Her recovery has been rapid and complete. The tumour, which was strictly steatomatous, was attached to the posterior part of the uterus, more than six inches from its mouth. Its bulky part was heart-shaped, and I am convinced it must have weighed fully six pounds.

This was Mrs B——'s first pregnancy, and during it nothing particular occurred. She enjoyed better health than is usual in such a situation. One thing only deserves notice. She supposed herself to have gone three months beyond the usual time; and this may probably be accounted for, by her dating from the formation of the tumour, and not from the conception of the child.

Forres, 28th August 1819.

VI.

Case of Ovarian Abscess successfully treated. By Thomas M'Keever, M. D. Assistant to the Lying-in Hospital, Dublin.

Anne Murray, æt. 40, of slender delicate habit; the mother of several healthy children, about two years ago observed a swelling to arise at the inferior part of the left inguinal region, accompanied with a feeling of weight in the lower part of the

abdomen, numbness, and impaired power of corresponding thigh. Previous to, and for a considerable time after she took notice of the swelling, the numbness of the lower extremity was at times so great as nearly to deprive the parts of all sensibility. These symptoms were attended with impaired appetite, suppressed menstruation, languor, and evident loss of flesh. Towards the approach of evening, she complained of chilliness and heat of skin. As her catamenia had been for some time suppressed, she was led to suppose that these symptoms were occasioned by a recurrence of pregnancy. Of this, however, she was inclined to entertain some doubts, in consequence of her courses returning shortly after their commencement. In this state of doubt and uncertainty, she applied to me for advice, in the month of August 1817. After a minute and careful inquiry into her case, I told her I was inclined to the belief that she was not pregnant; and that the tumour which gave her so much uneasiness was owing to some internal organic affection, but of what nature I could not say decidedly.

The circumstances which induced me to believe she was not pregnant were the following: In the first place, there was more lateral, and less anterior fulness than I have generally observed in pregnancy. Secondly, her breasts were quite soft and flabby. Indeed, these organs appeared to have undergone almost complete absorption. Moreover, the sickness of which she complained did not occur particularly in the morning, but was equally troublesome at all hours during the day; these, in conjunction with the regular condition of the menstrual discharge, influenced me in the opinion I had adopted. Aware, however, of the extreme uncertainty of all the usual symptoms of pregnancy, even at an advanced period, I was induced to request the assistance of my friend and preceptor, Dr Adrien of this city, who, after giving to the case a good deal of consideration, advised that she should be left entirely to nature until the complete expiration of nine calendar months from the period of her last matrimonial connection. She was, of course, enjoined to live *absque marito*.

From this period, the swelling went on progressively increasing, until at length she became enormously enlarged; so much so, that, when sitting, the most prominent part of the abdomen was on a line with her knees. She was altogether unable to move up or down stairs, or take any share whatever in her domestic duties; her respiration was much embarrassed, and she complained of distressing pain of back, loins, and ensiform cartilage; she is subject to occasional heartburn; her bowels, however, have continued uniformly regular; feel quite free from œdema, and she makes water with ease, and in usual quantity.

No appearance of catamenia for some months. Eleven months had now fully elapsed since the time I first saw her, during which period she had rigidly adhered to every direction then laid down. I accordingly proposed an examination *per vaginam* as the only decisive mode of putting the subject of her pregnancy completely at rest. The result of the examination fully confirmed the view that had been originally taken of her case, the uterus having been found not larger than an ordinary sized pear, and, as far as the touch could ascertain, of a completely healthy structure. As the poor creature expressed great desire that something should be done for her, I proposed to her the evacuation of the fluid by means of an incision in the anterior part of the abdomen, as the only chance of obtaining even temporary relief To this, however, she strenuously objected, saying she would prefer slow and gradual death rather than submit to any thing in the way of operation. From this time she increased prodigiously; every day there was a perceptible augmentation in the size of the tumour, until at length she became so large as to be altogether unable to leave her bed.

In the month of October, she again sent for me, saying that she was now willing to submit to any thing I should propose for her relief. On entering her apartment, I do not think I ever looked on a more melancholy or distressing instance of human misery. She was supported in bed by means of bolsters and pillows, in a half reclined position. Her respiration was extremely hurried; lips purple; pulse small and indistinct; eye languid and heavy; forehead and chest covered with a cold clammy sweat. In a word, she appeared as if in a few moments she would breathe her last. In this very unpromising state of matters, I again proposed to her the evacuation of the fluid, as the only possible chance of prolonged existence; and to this she at length consented. Accordingly, having procured the assistance of my friend, Surgeon Corbet, we proceeded to the operation. A sheet, folded longitudinally, having been passed round her, for the purpose of gradual compression, an incision, about two inches in length, was now made in the anterior part of the abdomen, a short distance below the umbilicus. After cutting cautiously and slowly through the peritonæum, a dense fibrous membrane presented itself to the knife, the division of which was instantly followed by a profuse gush of purulent matter, mixed with shreds of coagulable lymph. A silver canula being now introduced, in about two hours * two gallons of healthy-looking

* The quantity was ascertained by precise measurement.

pus were discharged. As she complained a good deal of weakness, and became somewhat impatient at being kept so long in the one position, we thought it prudent, although there was evidently still a considerable quantity of fluid in the sac, to desist for the present. The edges of the wound were accordingly brought together by means of adhesive plaster, and a compress and bandage being placed over all, she was ordered an opiate, to be taken at bed-time. It was truly gratifying to observe the favourable change which had taken place, even in so short a time, in this poor woman's condition. Her pulse, instead of being thready and indistinct, was now regular and of good strength; her breathing became free and unembarrassed; and she felt, to use her own expression, as if she had got into a new state of existence.

Before the operation, she measured 50 inches in circumference. After operation, she measured 32 inches.

On visiting her the following day, I feared all my hopes of being able to prolong my patient's existence were at an end. She had incessant vomiting during the entire night; abdomen somewhat swollen, with general tenderness on pressure; pulse small and rapid. She was directed to take the common saline mixture, with small doses of the tinct. opii, whenever the vomiting was distressing. Small doses of the sulph. magnesiæ in mint-water were ordered to be given every third hour.

Abdomen to be stuped, and to have a turpentine enema administered this evening.

October 21st, vomiting has ceased; pulse 100, of better strength; countenance less anxious; tenderness of abdomen much relieved. As she had but very trifling passage from her bowels since the operation, the following bolus and draught were ordered:

℞. Submur. hydr.—Pulv. jal. āā gr. v; Extrac. gent. moll. q. suf. ut f. bolus quamprimum sumend.
Et post horas tres Haust. seq.
℞. Olei ricini.—Olei terebinth. āā ʒvi; Aquæ menth. pip. ℥j; Syrupi zingib. ʒii.

21st, Bowels have been well freed; pain of abdomen gone; pulse natural; expresses a desire for food. From this period, she gradually became convalescent; and, on the 6th day after the operation, she was able to be up, and walk about her room. Incision completely united.

November 1st, sleeps well; appetite good; strength much improved. Hectic symptoms have entirely disappeared.

In about three months, my patient called on me one morn-

ing, to say that an opening, about the size of a small pea, had made its appearance in the middle of the wound in the abdomen a few days ago; and that, on making the slightest exertion, matter flowed freely from it. Looking on this as an unusual effort of nature for her relief, I merely directed her to apply some simple dressing to the wound, and to continue her bandage.

In the course of a few weeks, this discharge ceased altogether, and she now enjoys a degree of health and strength to which she has been a stranger for many years. I may conclude by stating, that she has kept a regular account of her dimensions since the operation, and that there is not any increase of size whatever, nor is there the smallest tenderness or pain in any part of the abdomen.

Lying-in Hospital, Dublin, Aug. 24, 1819.

VII.

Contributions to Morbid Anatomy.

No. I.

By Thomas Sandwith, Surgeon, Beverley.

I.—Diseases of the Head.

1.—*Case of a Man of Letters who died of Apoplexy.*

W. G. was in the 82d year of his age when he had a fatal stroke of apoplexy. He had been a hard student, and was a pale sickly-looking man; but his complexion was originally sanguine. Four years before the seizure, which proved fatal, he had premonitory symptoms, and was saved by a free bleeding. After the attack he was insensible, and the right side was paralytic. His habits of life were extremely temperate; but ever since he had constant dyspepsia, sick headach, and frequent palpitations of the heart.

Dissection.—The scalp and membranes of the brain were bloodless. On paring down the cerebrum, the right side was beautifully white, and formed a contrast to the left, which was extremely vascular; and, owing to the rapid oozing of arterious blood, from innumerable points, of a bright vermillion colour.

The right ventricle was full of serum, the left of clotted blood, which had torn down the substance of the brain near the ven-

tricle. On removing it the morbid condition of the finer arteries was apparent. They were enlarged, and the several ramifications looked like streaks of black silk or worsted. The infundibulum and third ventricle were also full of blood.

The heart was firm, but larger than usual. All the other viscera were sound.

2.—*Case of a Woman who died of Apoplexy.*

A. H., a country woman, had a fit of apoplexy. She was naturally robust and sanguine, but for some months had an earthy unnatural complexion; was dispirited, and complained of sick-headach. Four years before this seizure she had a violent inflammatory fever, with pain in the epigastrium, which yielded to copious bleeding, and the antiphlogistic regimen. It was succeeded by symptoms allied to mania. Though free from fever she talked incessantly, and never slept, but wandered about all night. Her manner was forward and immodest, and the powers of her mind were wonderfully excited. She was prompt in her replies, positive in all her opinions, and on all subjects employed a copious eloquence. Her long sentences were stored with lofty images; and though she frequently pursued new trains of thought before she came to a period, it was curious to observe how happily she disposed of them, and returned to the point from which she had diverged to conclude the sentence. These symptoms yielded to free purging.

After the attack she was insensible, and the right side was motionless; but she frequently lifted the left hand to her head, and the leg of the same side was violently moved. The power of swallowing was gone, but the sphincters were closed.

Free bleeding from the external jugular had no effect, and she survived the attack only twenty-four hours.

Dissection.—The dura mater adhered firmly to the cranium. The finer membranes were manifestly inflamed. Between them there was an extensive effusion of bloody lymph, which reddened the surface of the cerebrum.

As was suspected, the greatest mischief was on the left side of the brain; the anterior half of which was completely injected with blood. A large coagulum, which had evidently proceeded from the rupture of innumerable diseased vessels, filled the left ventricle, and had broken down the thalamus nervi optici of that side, and the corpus striatum.

There was serum in all the other ventricles.

The cerebellum was surrounded by water; its surface was deeply inflamed, and in its substance there were many apoplectic cells.

The trunk was not examined.

Remarks.—Between inflammation of the brain and apoplexy, provided we include the whole disease, there seems to be no essential difference. The former seldom conforms itself to strict nosological description, but appears in various forms, and apoplexy is one of them. The symptoms which constitute pyrexia have ranked phrenitis with the phlegmasiæ; and if the premonitory symptoms of apoplexy be carefully noted, its exclusion is unaccountable. The occurrence of fever after the fit has been remarked by all observers, and the other symptoms are analogous. It is needless to observe how pointedly the two cases just narrated illustrate and confirm the opinion.

3.—*Dissection of a Case of General Paralysis.*

After the researches of Mr Hunter and Dr Fordyce, the inflammatory nature of palsy needs no illustration; but the following dissection is interesting in another point of view.

G. W., robust, fat, and plethoric, aged 65, had been an invalid many years. The prominent symptoms were frequent cough and dyspnœa, dejection of spirits, complete inactivity of mind, and weakness of the limbs; and some months before death the lower limbs were in a half paralysed state. In the last years of his life, his distresses were aggravated by dysury and discharges of blood from the urethra; and, a little before his death, he had complete suppression of urine. The disease of the brain seemed to have originated in indolence and chagrin from the sudden loss of fortune. It is very remarkable that he never complained of any painful sensations in the head.

Dissection.—The membranes of the brain were deeply inflamed, and the cerebrum and cerebellum were in a state of extreme congestion. Between the dura and pia mater there was a great effusion of serum, as also at the basis of the brain and in the spinal canal. The ventricles were full of water. Altogether four ounces of serum were obtained from the cavity of the cranium. The plexus choroides was distended and cellular.

The heart was remarkably small, soft, and of slender texture. The venous systems of the lungs and liver were engorged, but there was no extravasation of blood.

The veins at the neck of the bladder were overcharged, and the middle lobe of the prostate greatly enlarged.

There were evident marks of injury done to the urethra, by fruitless attempts to introduce the catheter. His medical attendant was unacquainted with the long catheter recommended by Mr Astley Cooper, one of the most important inventions of

modern surgery; his own were all too short to pass over the enlarged portion of the prostate, and, after fruitless attempts, this patient died without having obtained relief.

4.—*Case of an Idiot who Died of Phrenitis.*

G. W., æt. 40, a little deformed man, large headed and ideotic, died after an illness of six weeks duration. The first symptoms were pain in the epigastrium, and jaundice, with fever. The jaundice disappeared in a fortnight, and he began to complain of violent cramps in the muscles of the chest, and of vertigo. He hesitated in his speech, and, from loss of memory, when he began a sentence could not finish it. His tongue was dry and glossy, and, from a contraction of the forehead, his aspect was fierce. He still could eat as well as usual. Emaciation followed. The cuticle peeled off in large patches, so that he literally appeared as though covered with rags. Twenty-four hours before his death he was furiously delirious, and then comatose.

Dissection.—The skull was surprisingly thick.

The finer membranes of the brain exhibited marks of inflammation, and serum and coagulable lymph were effused between them.

The medulla of the brain was uncommonly hard, and bloody points were most abundant. The cerebellum had the same characters. The choroid plexus was gorged with blood.

The ventricles were full of serum, and a large quantity was deposited at the basis of the brain, and in the spinal canal.

The viscera of the trunk were sound.

II.—Diseases of the Chest.

1.—*Case of singular Enlargement of the Heart from Rheumatism.*

R. N., 45 years of age, and of the sanguine temperament, was naturally stout and athletic, but for many years had been lean, sallow, and decrepid. He had a stiff neck, and his spine was gibbous; changes in his personal appearance, which originated partly in habits of intemperance, and partly from repeated attacks of rheumatic fever. He had the first seizure of this disease 18 years ago. It was treated without evacuations, and was consequently tedious, and left a predisposition to the disease, one or two severe and protracted attacks of which he had every two or three years; and, after he was thirty, he had all the signs of a shattered constitution. He had likewise pleuritic symptoms, twice or thrice, within the last three years. When free from

these diseases, Mr N. enjoyed tolerable health, had a good appetite, was regular in his bowels, and breathed well. The only circumstance he remembered was a disposition to perspire profusely, and an intermission of the pulse had been observed several years.

Mr N. reached home on the 10th of June 1816. He had been one month in London; during which time, he was without appetite, had frequent fits of breathlessness upon any exertion, and nightly orthopnœa. Nausea and vomiting succeeded; he became feverish, and had continued thirst.

The present symptoms, in addition to the shattered appearance already mentioned, were an œdematous swelling of the feet and ancles, a variable complexion, sometimes sallow, sometimes flushed. The urine scanty, cloudy, and depositing a pink-coloured sediment. When at rest, his respiration was easy; but whenever he moved, and sometimes without any obvious cause, it was high, quick, and oppressed. The pulse was 100 in a minute, irregular and intermitting; and, during the fit of dyspnœa, always counting 120. He complained of oppression and flatulence of stomach, dozed during the day, passed tolerably quiet though sleepless nights, was thirsty, and had but little appetite for food.

The case appeared to be hydrothorax, with a rheumatic enlargement of the heart.

Squill, in combination with pil. hydrargyri, produced no diuretic effect; and, as it caused excessive nausea, it was soon discontinued. The tranquillity of the stomach was restored, but the disorder of the chest increased; and, towards the close of June, the nights became restless. If my patient slept, he had a frightful dream, and a frequent sense of suffocation compelled him to quit the horizontal posture. The digitalis was next used, along with the tincture of squill and the ætherial spirit of nitre, with considerable effect; but it ceased to act, and, at the end of July, the swelling rose above the calves, and all the other symptoms were aggravated. In August, the water had reached the foreskin of the penis, and medicines had no effect. Colchicum, broom, and pyrola, were tried; but they were quite inert. Ascites now appeared, and increased the whole of the following month; and, it is worthy of remark, the symptoms of hydrothorax were proportionably relieved.

His physician had recourse to cantharides and nitric acid; but, by producing over-excitement, they certainly did harm. In October, the legs were scarified, and gentle purges recommended. At first, these measures gave relief; but the most alarming debility ensued, and, early in December, he was apparently in

articulo mortis. The hands were blue and œdematous; there was no pulse at the wrist; the countenance was shrunk, and covered with a cold sweat. He gasped for breath, had protruded eyes, and a mortal inquietude. Ether, brandy, and ammonia, in large, alternate, and quickly successive doses, gradually restored the powers of life. The quantities of stimuli were, of course, diminished, and the intervals of exhibition lengthened, as strength returned; and it is worthy of remark, our patient voided twice the quantity of urine he had ever made at any period of his disease. Indeed, it was delightful to see him awake, as it were, from the slumber of death, to a state of health compatible with the ruined condition of his vital organs. Life was prolonged three weeks longer by cordials, of which the chief was Cayenne pepper. At length they ceased to act. On the 22d of the month, a severe pain in the head warned us of effusion on the brain; his sensations were afterwards benumbed; one eye was distorted; and the following day he died.

Dissection.—The emaciation of the carcase was extreme. There had been some gangrene about the sacrum from pressure. Petechiæ were visible here and there. As might be expected, the absorbents of the thighs were greatly enlarged.

We found fluid in all the cavities; blood and lymph between the membranes of the brain, and a little water, but no distention of the ventricles. In the cavity of the thorax and pericardium was much serum, and the abdomen contained a great deal of yellow water.

With the exception of the membranes of the brain, all the serous membranes exhibited marks of inflammation. The right lung adhered by an immense deposit of coagulable lymph to the pleura costalis. The concave surface of the liver was adherent to the stomach; the omentum, or rather its shrivelled remains, to the peritonæum; and the exterior tunic of the small intestines was universally inflamed.

With the exception of the stomach, the interior of which was covered with an erythematous redness, the mucous membranes were not diseased.

The brain was certainly without inflammation, but was firm in its texture. The same may be observed of the cerebellum.

There was great passive enlargement of the heart; it was pale, flabby, and of a rotten texture. The natural condition of the ventricles was reversed; the cavity of the left was larger than that of the right, and the walls of the right were considerably thicker than those of the left. The corpora sesamoidea of the aortic valves were ossified; the coronary arteries were sound.

The lungs were amazingly congested, and rendered almost solid by extravasation in the cellular texture.

About the liver there was some question. It was not enlarged, but the speckled appearance of its interior led me to suspect disease.

The cartilages of the ribs were ossified.

Remarks.—The connection between acute rheumatism and enlargement of the heart was, I believe, first observed by David Dundas, Esq. and his observations are published in the Medico-Chirurgical Transactions. * The case just narrated is another illustration, and is chiefly interesting from the reversed condition of the ventricles; the left being thin and flabby, and the right thick and muscular. This condition of the heart explains very satisfactorily the state of Mr N.'s system for many years;—pulmonary congestion, and a deficient supply of blood to the rest of the body; and was, of course, coexistent with the irregular and intermittent pulse which had been observed many years. It was painful to witness in this case the ravages effected in the muscular system by rheumatism. The great curvature of the spine denoted its fearful extent.

That dropsy is an inflammation of the serous membranes, is a doctrine which has been long established by anatomical observation, and is now very generally admitted.

Dr Baillie has remarked, "that water is found in the chest, where there are considerable adhesions. This shews that a good deal of inflammation had formerly taken place, which had probably, by throwing out a considerable quantity of serum, laid the foundation of the hydrothorax." † In this case the inflammation had manifestly extended to all the serous membranes.

2.—*Case of Luxation of the Ribs, from Enlargement of the Heart in Tubercular Phthisis.*

T. W. was in the inflammatory stage of tubercular phthisis when he consulted me, in May 1817. He was in the 20th year of his age, tall and delicate. His chest was narrow, his shoulders alated, and he had the external signs of scrofula in its most exquisite form. Traces of its ravages remained in his neck. The last six months he had been out of health, languid, bilious, and he had been subject to severe headachs. He had also frequent palpitations of the heart, very distinct. He could

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* Vide Med.-Chirurg. Trans. Vol. I. p. 37.

† Vide Baillie's Morbid Anatomy, p. 60.

hear the heart beat against the ribs, and was sensible of a frequent intermission of its pulsations. There was a corresponding intermission of the pulse at the wrist. During the preceding months he had frequent attacks of pulmonary inflammation, and noticed one morning a protrusion of the ribs in the cardiac region. They were separated from the sternum, and projected considerably. After this event his heart beat with more regularity, and he had less headach. The first week of my attendance he had two attacks of hæmoptysis, and felt pain in the right side, a little below the clavicle. Flushing of the cheeks and burning palms followed, and a regular hectic, with cough, and puriform expectoration, was established. The lancet was freely used, the cough was relieved, but it never entirely left him; the violent action of the heart ceased, and the ribs returned to their natural situation; but hectic fever continued, and his emaciation increased, until he died, which event took place in the middle of December. Much relief was obtained in the last stage from etherial vapours; and when his mouth became aphthous, he subsisted almost entirely on rose and distilled water.

Dissection.—The third, fourth, fifth, and sixth ribs were found separated from the sternum, and a little elevated.

The heart was very small, contrary to expectation. It was empty of blood, and the right auricle and ventricle were thin and flaccid. The foramen ovale was not entirely closed. There were traces of inflammation of the aorta.

The superior lobe of the right lung adhered to the chest, and formed a large bag, containing pus. Except the left inferior lobe, which was tolerably sound, the remainder of the lungs was a solid mass of tubercle. There was serum in both sides of the chest.

All the mesenteric glands were enlarged.

In this case there was evidently passive aneurism of the right chamber of the heart, from pulmonary infarction, which free depletion had relieved. The patient died of genuine pulmonary consumption.

3.—*Case of Angina Pectoris.*

Mr J., formerly a butcher, æt. 62, of a robust habit, and sanguine temperament, has some time had symptoms of angina pectoris. He is looking extremely pale. When he walks, a violent pain in the middle of the sternum crosses the breast, and runs down each arm. The shoulders feel as though loosened from their sockets, and he is compelled to stop instantly.

A vomiting sometimes succeeds. The complaint frequently comes on in the night time.

When he sits still, he feels no disorder.

The pulse is above 100, soft, and intermits every fifth or sixth pulsation.

He was bled three times, and the blood was sizy.

He died suddenly, while in the act of giving some direction to his servant rather hastily.

Dissection.—The pericardium and heart were thickly covered with fat.

Both the coronary arteries were ossified, and in some places become mere capillary tubes. The morbid process extended to the smallest ramifications.

The heart itself was pale and flabby, and soft, like boiled beef.

The mitral valves were altered by disease, as were the semilunar valves of the aorta. The aorta itself exhibited marks of inflammation.

There were no adhesions in the chest, and the lungs were sound.

In his excellent work on Nosology, Mr Mason Good describes two species of angina pectoris, which he calls "Sternalgia Ambulantium," and "Sternalgia Chronica." The symptoms of the first species correspond with those of the case just related. From the cases that have occurred to him, he concludes, "that the respiratory organs are the seat of Spec. 1, and some affection of the heart of Spec. 2." * The dissection of Mr J. contradicts this opinion.

III.—Diseases of the Abdomen.

1.—*Case of Obliteration of the Cystic Duct, and Ulceration and Adhesion of the Duodenum, terminating in Inflammation, from Gallstones.*

I was invited by my friend Mr Jackson, to be present at the dissection of W. K. a weaver, a short robust man, 45 years of age. He had been an invalid the last fourteen years of his life, and had consulted several medical men, myself among the number. All agreed that his complaint originated in gallstones.

His skin had always a slight bilious tinge, and he had every now and then paroxysms of acute pain in the epigastrium, extending a little to the right side. The pain produced cold

* Vide Good's Nosology, p. 118.

sweats, but no acceleration of pulse. His stools, on these occasions, were white or clayey, his urine bilious, and he was sometimes jaundiced. Opium alone seemed to mitigate the pain. He voided several large gallstones by stool.

Before the seizure which terminated in death, he had complained several days of slight feelings of pain in the stomach, but was on that day better, and more than usually cheerful. Towards evening, however, while at a neighbour's house, the pain seized him, and was most excruciating; large drops of sweat ran down his face. He was heard to say, this attack differed from any he had ever experienced, and that he should not recover. Medical assistance was procured. The next morning, the pain was found to have diffused itself over the whole abdomen, which was so tender, that the weight of a blister was intolerable. Fever now manifested itself: the skin hot and dry; the tongue white, with a brown streak in the middle; the urine red; and the pulse 132 in a minute. As he lay bolstered up in bed, he presented a pitiable spectacle. He breathed short and quick, and his countenance was the image of distress. His chief anxiety was to keep the trunk immoveable. He was costive, and vomited frequently. The next day, signs of collapse appeared; and, early the following morning, he expired.

Dissection.—The peritonæum, omentum, and external tunic of the small intestines, were intensely inflamed, and serum and coagulable lymph were deposited in the cavity of the abdomen.

The mucous membrane of the stomach was erythematous.

The duodenum adhered to the concave surface of the liver. Separating this adhesion, two circular apertures, the remains of two ulcers, now healed, appeared. The larger of the two was about half an inch in diameter.

The cystic duct was diseased, and almost obliterated. Air could be forced by the blow-pipe, but the bile could not pass. The bile was black, and of the consistence of an extract.

The spleen was pale and shrivelled.

2.—*Case of Scirrhous Pancreas.*

In his valuable work on Diseases of the Abdominal Viscera, Dr Pemberton says, in scirrhous pancreas "there is deep-seated pain in the region of the stomach, and more or less of sickness, with emaciation." On this last symptom he observes, "the body is often reduced to the utmost state of emaciation, and the integuments of the abdomen appear almost to rest upon the spine." To the general accuracy of this description, the following case will bear testimony. The pain was not subduing as in spasm, but gave rise to the most frantic expressions and gesti-

culations; and the sickness, when once established, was constant. Nothing remained on the stomach. This symptom probably did not occur until the mucous membrane of the stomach became erythematous.

Mrs C. an unmarried lady, 67 years of age, of a dark complexion, complained of continual pain in the epigastric region, which extended to the left hypochondrium. Deep pressure increased the pain; and there was a remarkable pulsation below the cartilages of the false ribs, on the left side. She was a good deal emaciated, but without fever; the bowels generally costive. Her appetite was bad; but she had no sickness or vomiting. Her complexion was sallow; and her eyes had a peculiar expression of anxiety. The pain sometimes was most intense, and on these occasions she exhibited signs of distraction. Her body was agitated in a most extraordinary manner; she tore the bedclothes, and said she could tear the flesh from her bones. Large doses of laudanum afforded some relief. Six weeks before death, a vomiting came on. Every thing she swallowed was rejected, and sometimes a little bile and mucus. Nothing appeared to relieve this distressing symptom; and, after six weeks of extreme misery, she died.

Dissection.—The cadaver was extremely emaciated. The spine could be distinctly traced through the parietes of the belly.

The stomach was erythematous.

The pancreas had the usual marks of scirrhus; and the splenic artery was imbedded in scirrhous matter.

A small tubercle was found in the parietes of the uterus, and the germ of a polypus in its cavity. All the other viscera were sound.

3.—*Case of Fungus Hæmatodes of the Kidney.*

I dissected E. W. an old woman, in the presence of Dr Hall, Mr Chalmers, and my brother. There was an immense tumour, extending from under the ribs of the right side to the pelvis, and occupying two thirds of the cavity of the abdomen. The disease of which she died was supposed to be an enlargement of the liver.

The cellular texture on the surface of the belly was loaded with fat, but the rest of the body was in a state of great emaciation. The tumour, when exposed, was an enormous unshapely mass, to which the small intestines were adherent. Having separated it from these adhesions, we found it also adhered to the concave surface of the liver; and, on further examination, it proved to be the right kidney. It weighed eight pounds. The

exterior investment exhibited marks of inflammation; and underneath it were several collections of pus. Cutting it in two, the interior resembled diseased brain. Urine flowed from it, and here and there were extravasated blood, and portions of coagulable lymph, like polypi or worms.

The coats of the bladder were thickened, and exhibited the same morbid appearance.

The other kidney weighed only four ounces, and contained a small calculus.

There were marks of inflammation on the peritoneal surface of the small intestines in various places.

History of the Case.—This patient had nephritic complaints twenty years, and frequent discharges of bloody urine. She was attended by my friend Dr Hall three years ago; and in addition to the discharge of blood, had great pain and difficulty of making water;—fever and constant pain in the loins. The last attack he witnessed was unusually severe. The dysury was attended with the most excruciating pain in the region of the bladder; and she eventually voided a substance, which she supposed to be a worm, but which was probably a portion of coagulable lymph, such as we found in the kidney. This would plug up the meatus urinarius; and the morbid state of the bladder accounts for the pain she felt in the efforts of micturition. A month before she died, she became my patient for the first time, and had, besides the tumours, which were painful, the usual signs of fever. Bleeding relieved the pain. The subsequent treatment was entirely palliative. Emaciation and debility increased rapidly, and she died.

This disease is well described by Bichat.*

"L'induration des reins n'est pas toujours une suite de leur inflammation: elle vient aussi par un engorgement chronique, qui peut être de différentes espèces. Ces viscères augmentent de grosseur, et acquièrent quelquefois un volume énorme; on les a vus remplir presque toute la capacité du bas-ventre. Ils sont tantôt mous, et contiennent un assemblage de petites hydatides, des poches pleines d'urine, de pus, de matière stéatomateuse, &c. d'autres fois, ils sont durs et squirrheux. Dans ces derniers cas, la suppression d'urine n'arrive que par degrés; et même quand il n'y a qu'un rein d'affecte, on n'appercoit souvent aucune diminution dans la sécrétion, et la maladie existe sans être annoncée par aucun signe: il n'y a ni fièvre, ni douleur,

* Vide Œuvres Chirurgicales de P. J. Dessault, par Xav. Bichat, Tom. III. p. 88.

ni chaleur dans la région des reins; quelquefois les malades éprouvent seulement de la gêne, et se plaignent d'un sentiment de pesanteur dans cette partie, lorsque l'engorgement est considerable, et la tumeur volumineuse, les filets antérieurs des nerfs des premières paires lombaires en sont comprimés; l'engourdissement à l'aine et à la partie antérieure de la cuisse du même côté, augmente quelquefois, au point d'empêcher les malades de marcher."

Beverley, July 16, 1819.

VIII.

Cases of Ileus from a Twist on the Colon. By Walter Oudney, M. D. M. W. S. &c. Edinburgh.

—— M. aged 20 months, March 10th 1820, in the evening became hot, restless, and exceedingly thirsty. He screamed often, started much, and had most urgent vomiting. It is said that he had two natural alvine evacuations during the night. His surface next day became cold, his countenance collapsed, and in the afternoon he expired without a struggle. Previous to the attack his bowels were regular, and he seemed to enjoy good health.

These particulars of the history I collected from the friends, who, unconscious of danger, had not called in medical assistance.

Appearances on Dissection.—The cellular membrane was loaded with fat. Much bloody serum was found in the cavity of the abdomen. The omentum, which was collected into irregular folds, was considerably more vascular than usual, and chiefly occupied the left hypochondriac region. The jejunum and ileum were of a very dark dull red colour, approaching to purple, which was most intense in the jejunum, but ceased abruptly at the termination of the duodenum. These intestines contained a viscid bloody fluid, but were not more distended than common. On examining each coat separately, the peritonæal exhibited its natural transparency, and scarcely any vessels carrying red blood could be observed ramifying upon it: the muscular was also perfectly natural; but the mucous or villous coat was completely covered with vessels, loaded with dark-coloured blood, and many minute points and patches of extravasated

blood, and numerous small fungoid excrescences were seen here and there scattered upon its surface; it was much thicker than usual, but appeared to possess its natural firmness of texture.

The mesenteric glands were slightly swelled, but highly vascular.

The colon, from the caput cæcum to about the middle of the transverse arch, was greatly distended, and of a deep red colour, although much less so than the small intestines. The distention occasioned a considerable alteration in the relative position of the parts. The caput cæcum was turned over a little toward the upper part of the hypogastric region, and the ileum, instead of entering its left side, appeared to enter from behind; hence the pressure of the cæcum on the ileum would tend in a slight degree to obstruct its passage. The ascending colon occupied a considerable part of the umbilical region on the right side, and thus forced the small intestines more to the left side than they commonly are.

At about the middle of the transverse arch and termination of the distention, the colon was found twisted from above downwards, but without strangulation; the obstruction, however, induced by the twist, was so complete as entirely to prevent the passage of fluids. The marks of inflammation at this part were not greater than in the portion above. Immediately below the obstruction the intestine was perfectly healthy, of its natural pearly colour, and strongly contracted. The sigmoid flexure was much longer than usual, passing over to the right iliac region, and making an additional turn previous to its termination in the rectum.

With the exception of two or three drachms of serum in the ventricles of the brain, the other viscera were perfectly natural.

My intelligent friend, Dr Stroud, who assisted me in the above dissection, favoured me with a case nearly similar, which I communicate, with the permission of Dr Duncan, junior, under whose care the patient was in the Royal Infirmary.

M—— H——, aged 40, servant, 21st May 1819, is affected with excruciating pains of the bowels and lower part of the back, returning at intervals never longer than two minutes; unattended with local heat; aggravated by extension of the body, but not by pressure; and relieved by relaxation of the abdominal muscles, as in bending forwards on the knees. The pains are accompanied with great restlessness, and continual change of posture; some nausea, eructation, and hiccup; and frequent but unavailing efforts to evacuate the bowels, which are obstinately constipated, and the belly much distended, firm, and elastic.

She labours also under hæmorrhois, attended with considerable pain and tumour. Pulse 62, small and weak, when sitting; feels chilly, and has no dyspnœa; tongue moist, and slightly brown in the middle, with much thirst; urine passed in small quantities, but without difficulty. The patient has long been subject to constipation, and for the last year and a half to piles; and has formerly had attacks like the present, but never so continued and severe. She has had hæmorrhois eight days, and passed the last nine without a motion, having previously also been very costive, and taken irritating food. She was attacked with pain in the right iliac region yesterday morning, which afterwards extended to the back and bowels, and has since gradually increased. In the evening, she vomited a viscid matter, which was dark, but not offensive.

She was bled last night to a small extent, got salts, two injections, and a liniment externally, without evacuation or relief. An enema purgans, administered soon after her admission, was speedily returned without effect.

During the five days that the patient continued alive in the hospital, not the slightest alvine evacuation took place, although within this period she got one drachm of calomel, two drachms of the compound colocynth pill, nearly an ounce of the compound powder of jalap, six ounces of castor oil, two ounces of the oil of turpentine, and numerous purgative, emollient, and tobacco enemas. On account of increased tenderness of abdomen on the 22d, 16 ounces of blood were drawn from the arm, with little apparent effect. A candle, at least ten inches long, introduced on the evening of the 23d, ascertained that the rectum was free from obstruction; and, on making trial the following morning, about three pounds only of fluid could be injected per anum, which were soon returned with great force.

The symptoms were chiefly those of restlessness, watchfulness, and anxiety, with frequent change of posture, excited by the pain of bowels, terminating at length in languor and exhaustion.

The abdominal pain, besides affecting the back and sides, extended to the left shoulder. It was aggravated both by the warm bath and by cold water dashed on the loins, but was somewhat relieved by the tobacco enema. The efforts to evacuate were frequently repeated; but, except on one occasion, after taking a dose of castor oil, she was never sensible of any tendency to relaxation.

The pulse throughout was small and weak, progressively increasing in frequency from 62 to 120, and she was disposed to chilliness. The respiration was never embarrassed, and the

urine, although not copious, was passed without difficulty. The tongue was rather white and dry, with much thirst, but no nausea or bad taste. Vomiting occurred only from the use of a saline cathartic, which was in consequence discontinued.

The patient gradually declined, and died on the 25th, without groan or struggle, her pulse having, on the previous day, become imperceptible at the wrist, and her respiration, though without distress, increased to 42.

Appearances on Dissection.—On opening the belly, which was very prominent, more than a pound of dark-coloured bloody serum was found in the peritoneal cavity. The abdomen was almost wholly occupied in front by three enormously dilated portions of the colon, lying nearly vertical, and parallel to each other; the coats of which, being thin, readily discovered the colour of their contents.

The portion on the right, consisting of part of the transverse arch displaced, was of a light salmon colour; a considerable quantity of vascular fat was attached to its inner margin, and hung below it, which might possibly be the remains of the omentum, not elsewhere conspicuous. The middle portion, which was the largest of the three, consisting of a part of the sigmoid flexure, lay in a waving direction, exhibiting a marbled surface of a deep grass or bottle-green colour, with one of the longitudinal bands, extremely expanded, running along its middle. The portion on the left, consisting of a higher part of the sigmoid flexure, was less prominent, and of a lighter green colour than the former. Behind it lay the remainder of the descending colon, hanging perpendicularly, and likewise much distended. Around and beneath the above were a few convolutions of the small intestines, which were generally redder than natural; and between the several parts above described, more especially between the middle and left portions of the dilated colon, there were various recent adhesions.

At the termination of the colon in the rectum, a remarkable mechanical obstruction was formed by a twist of the sigmoid flexure from left to right, which, when thus exposed, could be readily disengaged and renewed by the hand, effectually preventing the passage of fluids, but without strangulation, as the intestine at the strictured part, although somewhat suffused, was otherwise sound.

The stomach and rectum were empty. The intestines contained a large quantity of thin æruginous feces, but no solid matter. The distention was entirely confined to the colon, between the valve and the obstruction, and in its upper portion it was chiefly occasioned by flatus.

The gall-bladder, which was filled with a reddish-coloured liquid, without concretions, adhered closely and extensively to the colon, tinging its neighbouring surface of a deep yellow.

With the exception of the liver being rather small and pale, and some old adhesions between the lungs and sides, no other morbid appearances were observed.

I have only met with one similar case on record, and that is related by Dr Abercrombie in this Journal. Between it and the case of M—— H—— a striking resemblance may be observed: in both, the previous history, the progress of the disease, and the seat of the obstruction, were nearly the same. The progress of the disease in the child was much more rapid, and the marks of inflammation greater than in either of the other patients. In all the cases the inflammation was not more severe at the seat of obstruction than higher up. In the child, it was observed, that the degree of inflammation was in proportion to the natural vascularity of the mucous coat; hence it was greatest in the jejunum, and slightest in the colon, and that it was also almost entirely confined to this texture; but in the other patients it appears to have affected the other coats also; for in M—— H—— various recent adhesions were found between the dilated portions of intestine; and in Dr Abercrombie's patient several gangrenous spots were seen.

Sudden movements of the body, and violent contractions of the abdominal muscles and diaphragm, when the colon is in a particular state, appear to me the most probable causes of this species of obstruction. When one portion of the colon is much distended with flatus or feces, and the portion next to it is strongly contracted, (an occurrence not at all uncommon,) any sudden movement of the body may cause the distended portion to turn a little over upon itself, and give rise to the first degree of twist, which will soon become complete, in consequence of the distention from above increasing.

It would be highly satisfactory were we capable of detecting this affection early, as much unnecessary suffering to the patient might be prevented; for it must be evident, that cathartics, the remedies commonly used, instead of relieving, will increase all the symptoms, and hasten greatly the fatal event. As yet, however, I know no symptoms peculiar to this species of ileus.

The injection of air into the rectum has lately, I understand, been suggested as a means capable of removing a twist upon the colon. I think it will prove successful, and would recommend it to be tried in all obstinate cases of ileus. With regard to its use, it may here be remarked, that the portion of intestine below the obstruction must be strongly distended; for it is necessary

that the distention below be equal to that above the twist, otherwise the desired effect cannot be accomplished. For this purpose, the common resuscitating bellows will be found to answer best.

Although no instances of a twist upon the small intestines have, so far as I know, been observed, yet I nevertheless suspect it to be no uncommon cause of ileus. Many of the cases, which are supposed to proceed from deficiency of contractile power in the muscular fibres of a portion of the small intestine, arise very probably from this cause. It may be urged, as a powerful objection, that no notice has been taken of it in the numerous dissections of patients that have died of ileus on record. The force of the objection, however, may be greatly done away, when we consider the facility with which a twist can be disengaged, and the parts restored to their natural state. The common method of tracing the small intestines from the stomach downwards, or from the colon upwards, would be sufficient for this; so that we need not be astonished at such a state of parts passing unnoticed even where it had existed.

Edinburgh, May 6, 1820.

IX.

Description of an Instrument which has been employed successfully in reducing Luxations of the Humerus. By Mr John Elderton, House Surgeon, General Infirmary, Northampton. *(With an Engraving.)*

The difficulty of reducing the luxated humerus is often so great, not merely in cases of long standing, but in recent ones, that an apparatus, calculated to accomplish the purpose with greater certainty and effect, appears to me likely to meet with a favourable reception from the practical part of the profession. Before, however, proceeding to describe it, it will not be irrelevant to take a brief anatomical view of the obstacles to reduction, which this apparatus proposes to surmount.

I have ever considered the difficulty of replacing the head of the dislocated bone to arise from two circumstances: first, the method employed does not efficiently confine the scapula; and, secondly, no apparatus has been regularly adopted to elevate

the head of the humerus, after that bone has been sufficiently extended from the scapula.

Before going farther, it will be proper to advert to the causes of failure in the modes of reduction which I have been in the habit of seeing employed. The Ambe, with all its improvements, appears liable to insurmountable objections: viz. it does not horizontally retain the scapula; and, moreover, the point of action of the lever forcibly compresses those muscles in the axilla which should be left free to elongate, and thus to allow of the requisite separation between the scapula and the head of the humerus. This I will farther explain. When the head of the humerus is displaced from the glenoid cavity downwards, (which is the ordinary species of luxation,) it is immediately and powerfully confined down by the united action of the pectoralis major and latissimus dorsi muscles, aided by that of the subscapularis and teres major. I am also disposed to believe, that the deltoid, with the triceps extensor cubiti, biceps flexor cubiti, and coraco-brachialis, are, from the irritation attending the injury, excited to contract, and thus resist the needful extension of the os humeri from the scapula.

If the above view of the subject be correct, it must be evident that the ambe, when brought into action in extending the humerus, will, in a ratio equal to the extended force, be found to have the point of action of the lever making a counter-pressure against either the latissimus dorsi or pectoralis major muscles, both of which, as shown above, are instrumental, by their contraction, in drawing down and retaining the head of the humerus in its displaced situation, and which must be freely extended before the bone can be reduced. Now, should the instrument happen not to press against either of the above muscles, but take its course between them in the axilla, it is then evident that extension alone on the humerus will prove insufficient for the reduction; because, since no counter-force is employed to retain the scapula, the latter will, from its muscular connection, follow the humerus unseparated.

Besides the above objections, which may be urged against the ambe, from the mere anatomical structure of the joint, there is another to which I can speak confidently. When the dislocated humerus has been reduced by pullies, it has always been the custom, at this Infirmary, for the professional gentlemen to point out to the pupils the necessity of horizontally and steadily pressing the scapula backwards and downwards, while a circular piece of wood, covered with linen, and placed transversely under the humerus, near its head, is elevated by two assistants, in order to complete the reduction; supposing always sufficient

elongation of the arm to have been already made. That such a practice of raising the luxated bone is requisite, while the scapula is pressed down, can be readily shown; for, if a dissection is made of the axilla, the various muscles concerned in the shoulder-joint will be found to surround the head of the humerus, excepting at its inferior, and somewhat anterior point, between the origin of the tendon of the long head of the triceps extensor cubiti on the posterior edge, and the insertion of the subscapularis on the anterior edge. The capsular ligament is here discernible, and at this point it is necessarily ruptured when the humerus is luxated.

Now, since the extreme extension of the muscles about the shoulder, made by pullies, is often found not to succeed in reducing the bone, the failure must arise from the want of a proper method of fixing the scapula; for, when extension is made, the head of the humerus will inevitably, if no obstacle prevents, take its course in some measure beneath the tendon of the long head of the triceps; and if in that situation an attempt be made to raise it, it will press against that tendon, already over-stretched from extension, and carry the unsupported scapula upwards, and thus defeat every attempt at reduction.

An additional advantage from well fixing the scapula when the humerus is extended, may be further shown by the same dissection. The coraco-brachialis, with the tendon of the short head of the biceps, arise from the coracoid process of the scapula, and, to reach their insertion, take, immediately after their origin, a course somewhat circuitous, corresponding to the hemispherical shape of the head of the humerus; but if the shoulder is luxated, the above muscles, from the head of the humerus being removed, run in a right line from their origin to their separate insertions; and, by so doing, grasp, in some degree, the cervix of the bone. That this must needs be the case may be made evident by measuring the intermediate space between these muscles, which will be found of a less diameter than the head of the bone would require for its easy return into the glenoid cavity. This serious obstacle to reduction, I conceive, can be best overcome by the apparatus before me, which first fixes the scapula, and then presses the head of the humerus forcibly upwards and backwards.

I shall now proceed to describe the apparatus as succinctly as possible.

A *a* A represents the three sides of a metallic frame, whose diameter is five inches, and whose length is ten from the centre of the side *a*. The sides A A are circular polished pillars, half an inch in their solid diameters; while the side corresponding

Ed. Med. & Surg. Journal N° 64. Page 301.

Mr Eldertons Instrument.

Engd by W. H. Lizars.

Edinburgh, Published by A. Constable & Co. 1830.

to *a* is flat, and curved a little backwards, and considerably downwards; being $\frac{7}{8}$ of an inch deep, and having attached to its upper and posterior edge, an horizontal plate, about $3\frac{1}{2}$ inches in length, and $1\frac{1}{2}$ in breadth, destined to press against the acromion process of the scapula. The under surface of the horizontal plate is padded, as well as the posterior surface of the curved side of the frame.

C is a curved metallic plate, about 3 inches broad, and well padded on the posterior side; and, by means of two broad rings, *d d*, attached to it, it will slide on the polished pillars A A, and may be made sufficiently firm on them at any elevation, by turning the small thumb-screws, *e e*, which pass through the rings, and press against the frame. F is a strong semicircular polished collar, having at each extremity a broad ring, through which the sides A A of the frame can move. The collar F is kept steady on the frame, and moved higher or lower by the apparatus *g g g*, consisting of two stout pins, which run parallel and in front of the pillars; the lower ends screw into the collar, while the upper ends are fixed to each extremity of the bow at the top of the pillars, through the centre of which the long thumb-screw H turns, having its extremity moving in a pivot on the horizontal plate attached to the top of the frame. K is a strong *ginglimus* joint, moving on the semicircular collar F, already described. Through another collar attached to this hinge, there passes a strong screw *f*, made to rise or fall by turning the apparatus *m*.

Having described so much of the apparatus appropriated to fix and make counter-action against the scapula, I shall proceed to explain the part calculated to make counter-extension on the humerus.

G G is a square case, about $9\frac{1}{2}$ inches long, and $1\frac{5}{8}$ in depth, having its bottom and sides made of polished plates. The upper plate is made strong, and extends beyond the side plates about $2\frac{3}{4}$ inches, as may be observed at *l*. Within the case described, and in immediate contact with the inner surface of the upper plate, there slides a second steel plate, X, altogether 14 inches in length, and having a superficial groove, with a cap upon its under surface, at the point *h*, to receive the head of the screw *f*, by which medium both parts of the apparatus become connected, and by which also the apparatus acquires a rotatory motion, should such be found necessary during the reduction. At N we observe the head of a screw, which passes down the inside of the case G G, its whole length. At O the screw has a collar which attaches it to the case, while, within the case, it turns in a female screw attached to that extremity of the second

plate, X, which is next the handle of the apparatus. From this construction it must follow, that by turning the handle P, the screw, revolving within the case, and passing through the female screw attached to the second plate, will carry the case backwards or forwards at pleasure, and when the arm is fixed to it, will make a steady, regular, and powerful extension. R is a lock similar to those employed for retaining the string in cross-bows; on the hook *w* it receives the ring S, to which the webbing, to be fixed by a circular roller to the arm, is made firm.

Instructions for applying and using the apparatus.

Let the patient be placed on a high stool, and the luxated arm be horizontally raised. Then, bending the fore-arm at a right angle with the humerus, place the ring attached to the webbing opposite the elbow, putting one fold of the webbing on the upper side of the arm, while the other is held beneath by an assistant. A calico roller is now to be carried several times around the arm, including the webbing; the latter, for the purpose of greater security, had better be reflected once or twice back, giving the roller several pretty tight turns to each reflection of the webbing.

The arm is now to be passed through the frame of the apparatus, and held by an assistant firm upon the shoulder, while the ring at the elbow is put over the ketch at the extremity of the extending apparatus. A few turns should be made on the screw, to give the bandage on the arm a slight degree of tension. Before we proceed to make the requisite extension for reducing the arm, we should take care that the horizontal plate attached to the top of the frame lie firm upon the surface of the acromion, and that the posterior padded surface of the top side of the frame be opposed to the extremity of that process. We must next look to the sliding padded plate at the bottom of the frame, and adjust it so as to oppose the advance of the inferior angle of the scapula. Lastly, the extending apparatus is to be brought into close contact with the under surface of the arm, by turning the thumb-screw at the top of the frame. Several turns must now be made on the extending screw, which (if the webbing is well bound to the arm) will draw out the humerus; while the frame, making counter action, steadily fixes the scapula at its upper and lower part. When we have sufficiently extended the humerus, a few turns of the elevating screw *m*, *f*, beneath the hinge K, will throw the head of the humerus into the glenoid cavity.

Northampton, April 1, 1820.

I beg leave to subjoin a certificate, in favour of the above instrument, from Dr Kerr, whose long experience, and commanding intellect, cannot fail to give very great weight to his opinion with the profession.

> "I consider this instrument better calculated to facilitate, or rather to accomplish the reduction of the humerus, in cases of dislocation, than any other instrument now in use for that purpose, as has been proved in this Infirmary.
>
> "WILLIAM KERR,
> "*Superintending Surgeon.*"
>
> *General Infirmary,*
> *Northampton, 28th March* 1820.

X.

Observations on the Treatment of Hydrencephalus, with Cases.

By THOMAS SALTER, Member of the Royal College of Surgeons.

IT is seldom that any subject, connected with philosophical science, obtains a complete elucidation by the labours of an individual: the successive or united exertions of intelligent minds are often requisite for the developement of truth. Thus, what in the outset of investigation was mere hypothesis, becomes at length established on immutable principles. This observation is, perhaps, more applicable to medicine than to any other department of human knowledge; and hence it is, that communications which, if taken singly, may appear of no great importance, become in the aggregate of considerable moment. I am, therefore, encouraged to draw up the following cases of hydrencephalus, with a few preliminary remarks, which, if they lay no claim to novelty, may yet tend to establish principles of practice already advanced.

Although our knowledge of hydrencephalus as a distinct morbid affection, is comparatively but of modern date, it has given rise to a good deal of discussion, and employed the pens of some of the most distinguished physicians. Since it was first discriminated and accurately delineated by our distinguished countryman Dr Whytt, it has, I believe, been viewed by the most

sanguine believers in the powers of medicine, as a complaint very difficult of cure; and, if I mistake not, there are persons who, in the present day, think it one of those disorders in which the most appropriate and well timed efforts of the physician will ever prove fruitless. Mercury, from its first recommendation by Dr Dobson to the present time, has been the medicine on which those who have entertained hopes of curing the disease have chiefly relied. Yet the success attending its employment has not equalled the expectations raised by the fortunate termination of some cases recorded by this physician, by Dr Percival, Dr Garnett, and some others.

It was unfortunate for the credit of this mineral, that, when its administration was suggested in the treatment of hydrencephalus, the pathology of this disease was not well understood, and, since further experience and an improved pathology do not warrant us in considering it in the light of a specific, or in trusting to its unassisted operation, it is not wonderful that instances should have arisen wherein its powers frequently appeared inadequate to accomplish the intentions of those who prescribed it. Indeed, it is still to be expected that, even under the most judicious use of mercury, and with other approved means, cases might occur in which the medical attendant will be obliged to witness the triumphant march of the disease with only the partial satisfaction of having somewhat retarded its progress. This, however, is no more than occasionally takes place in complaints that no one thinks of denominating incurable, such as pneumonia, pleuritis, enteritis, &c.

In giving it as my opinion that mercury is one of our chief arms of strength in combating this alarming complaint, I cannot deny myself the pleasure of expressing a belief, that the day is not far distant when hydrencephalus will no longer be considered an opprobrium to medicine; and that medical men themselves will not view it in a more serious light than many other diseases that are commonly remediable. In a prophylactic point of view, I think much may be done to lessen the frequency of hydrencephalus. Delicate children of scrofulous constitutions require great watchfulness, and a constant assiduity in the pursuit of every measure calculated to invigorate the health and to prevent the occurrence of any thing that might weaken the system; for I cannot but consider weakness, in connection with a strumous diathesis, as the parent of this disease, as well indeed as of most others peculiar to delicate children.

In its mode of invasion hydrencephalus varies considerably in different cases, and the succeeding symptoms and duration of

the complaint are much modified by the manner of attack. Upon this diversity in the onset and sequence of the symptoms, Dr Cheyne has founded a division of the disease into three classes. Were I writing an essay on hydrencephalus, I should feel it incumbent to describe its multiform appearances; but here it will be sufficient to observe, that that variety which is marked by the least prominent signs is the most to be dreaded, and chiefly because it is so commonly overlooked in its early stages.

Dr Yeates, in his letter to Dr Wall, has done much towards awakening in the minds of medical men a disposition to observe the early symptoms of hydrencephalus, as well as towards impressing upon their attention the necessity that exists for the most prompt measures to remove them. If a child be observed to be listless, laying down its head without any obvious complaint, the alarm should be instantly taken, for, in such a case, we shall seldom err in supposing that there is, at least, a disposition to hydrencephalus; for frequently no other marked or conspicuous deterioration of the health has been noticed, previously to the accession of convulsions, than these symptoms. It is not uncommon, however, for a slight convulsion to occur in the beginning, and considerably to alarm the patient's friends; yet, immediately as the fit is over, the child appearing as well as before, their fears are soon dissipated, and, though he may not afterwards have had quite his usual spirits and activity, and may perhaps have been remarked to be a little feverish at night, still the minds of the parents are not alive to the alarming nature of the complaint until the recurrence of convulsions, which may not take place for several weeks after the first attack.

It were much to be wished, that every practitioner would strongly impress upon the minds of parents the insidious nature of the disease, and the necessity there is of giving immediate alarm, on the occurrence of any symptom indicatory of its approach. For the successful treatment of hydrencephalus much depends upon its early recognition. In no other disease to which a practitioner may be called, is it of greater consequence to make an early and accurate diagnosis; for though in the infantile remittent fever, the disease which, more than any other, simulates hydrencephalus, the same mode of practice is in some measure applicable, particularly as it respects the administration of mercurial purgatives, yet we should not, in that disorder, deem it necessary to employ such measures for the relief of the head, as are imperiously demanded in the one we are considering; for if the inflammation of the meninges, which may have been produced by morbid sympathy with the viscera, be not re-

lieved by proper means, we shall often in vain attempt to ameliorate the abdominal affection, as the morbid condition of the brain, reacting upon the chylopoietic organs, will perpetuate their derangement.

I believe that Dr Curry of London, and Dr Cheyne of Dublin, were the first to point out, that hydrencephalus was often produced by a morbid sympathy of the brain, with a disordered state of the abdominal viscera, and, more particularly, with that of the liver; and it is remarkable that these gentlemen should, about the same period, and without any communication with each other, have taken so similar a view of the subject. Having many years since had the advantage of attending the lectures delivered by Dr Curry, I early became acquainted with the importance of paying attention to the condition of the abdominal organs, in the treatment of many cases of hydrencephalus. For the most part, the opinions I then imbibed on the subject, have since been amply realized by my own experience, and farther confirmed by the perusal of Dr Cheyne's book on Hydrocephalus Acutus; of which, as well as of that author's works on some other diseases of children, it is impossible to speak too highly.

In his Anatomy, Mr C. Bell has given us an excellent description of the structure and functions of the duodenum; but we are more especially indebted to Dr Yeates, for calling the attention of the profession to these morbid states, to which its several peculiarities predispose it, and to the importance that ought to be given to them in the consideration of the *ratio symptomatum* and treatment of hydrencephalus. In a former volume of this Journal, * I have shown the incorrectness of the opinion which has, I think, been too prevalent, that of considering the liver as almost exclusively the viscus, the diseases of which sympathetically produce encephalic affections; and though I still believe, that either functional or structural derangement of some or all of the viscera of the abdomen, in a majority of instances, lays the foundation of hydrencephalus, my subsequent experience has led me to think, that it is more frequently an idiopathic disease, than it has been customary latterly to consider it. Indeed, it were absurd to suppose, that the exciting cause is never to be found in the brain itself. In my opinion, the plethoric state of the vessels, and the great determination of blood to the head, in children, necessary for physiological purposes, too obvious to require recital, is, in scrofulous ha-

* Vol. XI.

bits, occasionally, at least, the only apparent cause of the complaint.

On the particular application of the remedies, in the following cases, I have but little to remark. They may by some, perhaps, be thought not at all times to have been the most judicious; they, however, were such as appeared to me at the time to be essentially required for fulfilling the three great indications in the treatment of the disease. The first of these indications I consider to be, to remove the inflammatory action of the vessels of the brain; the second, to clear the bowels, and to restore and augment the healthy secretions of the chylopoietic organs; and the third, to establish a new action in the system. In fulfilling the last indication, especially in the case of children, I have found it more convenient to give calomel than to administer mercury by inunction. I was first led to adopt this practice, from the prejudice and dread showed by the mother of Miss B. (who forms the subject of the first case,) against mercurial frictions, during my attendance upon her son, a lad of five years of age, who died of hydrencephalus in 1813. When she became acquainted with my intentions, she not only forbade the employment of mercurial ointment, but the use of that mineral under any form. This boy might possibly have been saved, had I been allowed to treat the case as I thought proper; for the omission of mercurial medicines constituted the only difference in the management of the two cases, and, as it respects their identity, I have not myself the least doubt. In this opinion I am also supported by the concurrence of both parents. Since this period, to avoid these prejudices, I have been in the habit of depending wholly upon the liberal use of calomel, to excite the mercurial action; and finding it not only equal to the mode by inunction, but superior to it, (inasmuch as, at the same time it produces its peculiar constitutional effects, it often occasions a free action of the bowels, a circumstance so urgently required in hydrencephalus,) I can with confidence recommend it to the notice of the profession, as a mode of practice from which the greatest advantages may be expected. I was much gratified at finding it adopted by so able a practitioner as Mr A. T. Thompson, to whose interesting Cases of Hydrencephalus I would beg leave to refer the reader, for some further observations on the employment of this medicine. *

The use of cold lotions to the head, as recommended by Dr

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* London Medical Repository, Vol. I.

Clarke, * instead of blistering the scalp, is, I think, a great improvement in practice. The plan, however, is not new; it certainly did not solely originate with Dr Clarke. I had myself employed it long previously to the publication of his book; indeed, two of the cases that have given rise to this communication bear an earlier date than the appearance of Dr Clarke's work.

Before I conclude those remarks, I would beg leave to make a few observations on the dilated pupil, and on the excretions from the bowels in hydrencephalus. Systematic authors have been accustomed to lay considerable stress on the permanent dilatation of the pupil, as indicative of an effusion of water in the ventricles, or upon the surface of the brain. Being a striking and obvious symptom, I was, on first entering upon practice, in common with others, in the constant habit of looking for it; but having had an opportunity of seeing several cases in which the disease terminated fatally without the occurrence of this sign, and as it is one not peculiar to water in the brain, I do not now regard it with that importance in forming the diagnosis which I was formerly in the practice of doing. In this disease, however, the pupils are undoubtedly often dilated; but it cannot wholly, I think, be ascribed to the presence of a watery fluid compressing the brain; since such accumulations occur in other diseases of that organ, as mania, epilepsia, &c. &c. without occasioning such an effect. Moreover, as in the early stages of the disease, when medical treatment has the greatest prospect of being attended with success, it is more common to find the pupils contracted, in a diagnostic point of view this symptom cannot then, at such a period, be considered of much moment. Yet how often do we see practitioners searching in the early stages of hydrencephalus for a dilated pupil?

As the effusion of an aqueous fluid within the cranium is, with very few exceptions, preceded by an inflammatory action of the blood-vessels of the membranes of the encephalon, I conceive that the absence of the contractile power in the circular fibres of the iris, as well as the strabismus, imperfect vision, and coma, may more correctly be all ascribed to the accelerated motion of the blood in the brain, exhausting its excitability, and impairing its functions, than to the presence of water upon the surface, or in the cavities of that organ. †

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* Commentaries on some of the most important Diseases of Children. By J. Clarke, M.D. 1815.

† On the subject of effusion within the cranium, more correct views are be-

By taking this view of the phenomena, much of the obscurity that envelopes the subject is, I think, removed; and we can readily understand why the pupils should be dilated in some cases, and not in others. If the above explanation be correct, the pupils are most likely to be dilated in those instances in which the inflammatory action has been most violent; and my experience concurs to confirm this opinion: for in those cases that I have seen, where the pupils retained their natural appearance, the inflammation was more of the atonic kind, the eyes were but little suffused, the conjunctiva retaining a healthy aspect nearly to the last. In two of these cases, vomiting was the most prominent symptom. In one of them, about three ounces of fluid were found in the ventricles; in another, five ounces; and in a third fatal case of the disease, I have observed in my notes, that the pupils were only dilated during the convulsive fits which occasionally occurred. At other times, they were of their proper size, contracting and dilating naturally on the application and withdrawment of light.

In the fourth volume of the Transactions of the College of Physicians, Dr Baillie relates a case of hydrencephalus in an adult, in which the pupils were not dilated, and the sight was perfect. In the fifth volume of the same Transactions is a remarkable instance given by Dr Heberden, of an old man in whose brain twelve ounces of fluid were discovered after death, and the only symptom in this patient, indicative of an encephalic affection, was a deafness that had existed ten years. This case strikingly shows how large a quantity of fluid may be accumulated in the brain without producing the ordinary signs of pressure, if the functions of the organ be not destroyed by a sudden and violent excitement. In syncope, the pupils are frequently dilated. What is the state of the circulation within the cranium in syncope? If we can form a judgment of the state of the capillary vessels of the brain from an observation of those of the surface of the body, we may suppose that the former are, like the latter, nearly in a state of collapse. Admitting, however, the doctrine of the incompressibility of the brain, the ve-

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ginning to be entertained. My remarks were written immediately after the occurrence of the last of these cases, now more than two years ago. But, from circumstances unnecessary to be explained here, they were not forwarded for publication. I have since been much pleased at finding them so nearly to coincide with the opinions expressed by Dr Abercrombie in his valuable communication in the 14th volume of this Journal. Similar views appear also to be entertained by the review of Dr Coindet's work on Hydrencephalus, given in the second number of the Quarterly Journal of Foreign Medicine and Surgery.

nous system of the encephalon will be in a condition of proportionable turgescence, and the blood will necessarily be nearly arrested in its course, or it will move but slowly on towards the heart; yet, should we reject this hypothesis, it must be allowed that there is both a deficiency of blood in the vascular system of the head, and a languid circulation. In either case, the effect will be the same,—a diminished developement of sensorial power. Here, then, we have the same effect produced when the circulation in the brain is imperfectly carried on, as follows a preternatural activity of its vessels, which I think is corroborative of the opinion I have advanced,—that some of the symptoms in the latter stages of hydrencephalus do not so much arise from pressure as from exhausted excitability of the brain.

Although a dilated pupil is not a necessary consequence of hydrencephalus, it is not on that account to be disregarded, when it does occur; for, in whatever way we may account for the phenomenon, it cannot but be considered as an unfavourable symptom, as well as in some degree the measure of the injury done to the brain. But he who waits for the occurrence of this sign, before he takes decisive steps for the relief of his patient, will very frequently have let slip the golden opportunity in which he might have prescribed with some prospect of success.

In apoplectic attacks, in which there are extravasations of blood into the substance or ventricles of the brain, it is not, I apprehend, so much from pressure, abstractedly considered, that the pupils are dilated, as from the tearing up of the substance, and the consequent partial or total annihilation of the functions of the organ. For it matters not whether the sensorium be destroyed by an undue excitement or momentum of blood, or by a sudden disorganization; the results are the same. Indeed, the way in which pressure itself, apart from any structural derangement, operates, is, I conceive, by suspending the powers of the sensorium. This opinion derives equal support, however we may explain the *modus operandi* of pressure, whether we consider the compressing cause as operating upon the cerebral substance, or upon the blood-vessels obstructing the circulation; a due supply and equal distribution of blood, and a natural disposition of the fibres which compose the brain, being alike essentially necessary to the existence and exercise of its functions. If any thing were wanting to prove, that what are commonly supposed to be symptoms of compression of the brain are not always the effect of mechanical pressure, I think that the cases of apoplexy related by Mr Abernethy and other authors, in which all the genuine symptoms of the disease occurred, and yet, on examination after death, no diseased appearances were

to be discovered, must be sufficient to convince the most incredulous. And the instances of well marked and acute cases of hydrencephalus that occasionally take place, in which no effusion is found, prove indubitably the same thing.

In these reflections, I have taken no notice of the disputed opinion of brainular absorption, (whether or not, for the purpose of obviating the effect of pressure, effusion be always preceded by the absorption of the matter of the brain.) This is a subject in pathology which presents very difficult, if not insurmountable, obstacles to a satisfactory solution; and the determination of the point would not, that I am aware, at all affect these remarks; for if absorption of the brain does take place, as some pathologists suppose, pressure cannot of course occur; and if it does not, facts and morbid anatomy teach us, that the organ has an inherent power of accommodating itself to the degree and kind of pressure that exists in hydrencephalus.

It now only remains for me to make a few observations upon the alvine excretions. In all corporeal diseases, it is very justly thought, that much information is to be obtained, by attending to and observing the nature of these discharges; but in no disease is this more important than in the one under consideration.

Dr Fothergill observes: "The stools are most commonly of a very dark greenish colour, with an oiliness or a glossy bile, rather than the slime which accompanies worms."* This account pretty accurately accords with that given by subsequent writers, and for the most part coincides with my own observations. The pitchy or tar-like appearance of the stools, which is sometimes present in this complaint, is of less frequent occurrence. In one fatal case of hydrencephalus that I attended, the patient passed several of this description a short time before death. Dr Cheyne supposes these green gelatinous evacuations to be wholly a mixture of dark bile, and of the mucus of the intestines. In the conjecture that they are chiefly composed of bile and mucus, he is probably correct, and the bile, if submitted to the test of chemical analysis, may not be found perfectly natural. In many examinations made for the purpose, in persons who have died of this disease, in no one instance have I been able to discover dark feculent matter, such as had been previously ejected from the bowels, above the colon. The small intestines were turgid with a bilious fluid of a natural hue; and the bile in the gall-bladder was, in appearance, of the most healthy quality; and in

* Medical Observations and Inquiries, Vol. IV.

other diseases of children, in which green stools have been frequent, my investigations *post mortem* have invariably showed similar results. These circumstances have led me to the conclusion, that we are not yet acquainted with all the morbid changes that take place in the bilious and intestinal fluids, or what deviation from their natural state is necessary for the production of these dark green evacuations. I do not, however, mean to assert, that bile never comes from the gall-bladder having the dark green aspect which characterizes these stools; but only in many dissections, carefully conducted, I have entirely failed in finding it of such a colour, either in that receptacle, or in any part of the alimentary canal above the termination of the ileum. This I think proves, that it is not at least so common an occurrence, as, judging from the tenor of their writings, medical men have in general supposed. Mr Burns of Glasgow seems to think that this colour of the alvine evacuations may arise from the presence of acid in the intestinal tube; and as alkaline medicines do occasionally effect a healthy change in their appearance, it is perhaps not an improbable conclusion. Constitutional irritation, arising from any cause, will generally produce green stools in children. This is shown by their occurring, more or less, in almost all infantile diseases; and calomel, which is so much given for the purpose of ameliorating the biliary secretions, I have had ample proof, will very frequently give rise to them. In the treatment of the diseases of children, I have often thought it necessary to discontinue the use of the submuriate of mercury, that I might be better enabled to ascertain the real state of the hepatic system. From these observations, I think we may deduce the following practical conclusion,—that we shall often fall into error by judging hastily of the state of the liver, from the appearances exhibited by the intestinal evacuations, without giving sufficient weight to causes, which we must admit may often exist in the alimentary canal, capable of producing great changes in the aspect and nature of healthy bile.

Cases.

Case I.—*January* 9, 1815.—Miss B. aged 9 years, of a spare and delicate habit, for some time past has been visibly falling off in her general health, and for the last eight days she has complained greatly of her head, chiefly in the sinciput. She has taken some powders, containing each a grain of calomel, and five grains of the hyd. cum creta, from which at first she seemed to derive considerable benefit, but is now much worse, and the pain of the head is very distressing. The pupils are contracted, the brows corrugated, and the light is extremely painful to her; tongue white; skin hot; pulse 100; bowels

open; urine high-coloured. In July 1813, she lost a brother five years old, in hydrencephalus. The symptoms, in the early part of the disease, being so like what she now has, her parents are very naturally much alarmed for her safety. I wished her at this time to lose blood, but she has unfortunately been greatly indulged, and cannot be brought to submit either to the use of the lancet, or the application of leeches. I have directed a blister to be applied upon the nape of the neck, and ordered for her the following powders:

℞ Pulveris radicis jalapæ, gr. xlviii.
Hydrargyri submuriatis, gr. xviii. Misce, et distribue in chartulas sex. Sumat i. quartis horis donec alvus bene purgetur.

10th, 10 o'clock, A. M.—The blister has risen well. She has been sick, and has vomited; had five dark, fetid stools. She has complained much of her head, which feels very hot; she is now asleep; pulse 80. I ordered rags wetted with cold vinegar and water to be constantly applied to the forehead.

Capiat hydrargyri submuriatis gr. iii. omni trihorio.

11th, at noon.—Has passed a tolerable night, and is now in less pain. She has had several copious, dark-green and glossy evacuations from the bowels. The eyes look more lively, skin cool, tongue cleaner, pulse 100.

Continuetur hydrargyri submurias.

10 o'clock, P. M.—She again complains of violent shooting pains in the head, which also feels hotter, and the heat of the general surface is increased; tongue more furred; the eyes look dull, and the sensibility of the retina is so augmented, that it has been necessary to darken the room. She has a great aversion from moving, even in bed, and cannot for a moment support her head from the pillow; pulse 100. She was now prevailed upon to lose a little blood. Six ounces were immediately taken from the arm. The blood was sizy.

Repetatur hydrargyri submurias.

12th, 10 o'clock, A. M.—Had a restless night; suffered a good deal from the pain in the head; had one motion of the same character as the last; it is the only stool since yesterday morning. Tongue somewhat cleaner; pulse 100. Six grains of jalap were ordered with the next dose of calomel.

8 o'clock, P. M.—Complains but little of her head, though she does not attempt to raise it from the pillow. The brows are corrugated; skin moderately cool. She is now asleep, and has been much disposed to doze. The jalap has procured but one evacuation, which is of a dark-green colour, and slimy.

Pergat in usu hydr. submur.

13th, 10 o'clock, A. M.—She has been very sick in the night, and has had an increase of pain; pulse 125; had two small alvine evacuations.

℞ Magnesiæ sulphatis ʒii.
Infusi sennæ tartarizat. ʒviii. Fiat haustus simul capiendus.
Continuetur hydrargyri submurias.

9 o'clock, P. M.—Has slept more to-day than usual; vomited several times; the pain in the head continues; has had two stools, in appearance the same as those previously passed; they float in the fluid, and do not communicate any bilious tinge to it. The urine is copious and pale. The eyes look brighter, and the pupils, though now rather large, contract promptly. Tongue moist, yellow at the back, white at the point and fore part; skin hot; pulse 120; takes but little nourishment. Her breath has the mercurial taint.

Apponatur emplastrum lyttæ inter scapulas.

Persistat in usu hydrargyri submuriatis.

14th, 11 o'clock, A. M.—The blister was not applied till early this morning. Has passed a tolerable night; skin hot; pulse 160; had two stools, much improved in character.

Continue the calomel.

9 o'clock, P. M.—Has vomited several times to-day. She says her head is better. The skin is hot; pulse as in the morning. She is exceedingly weak, unable to stand, or even to move in bed without assistance.

15th.—The face is swollen with the calomel, and the saliva flows freely. She has had a good night; her appearance is greatly improved; she looks more lively, and talks freely and intelligently; she has had four or five stools, slightly tinged with blood; the head is now quite free from pain.

Omittatur hydrargyri submurias.

9 o'clock, P. M.—She continues much in the same state as reported this morning; is quite free from pain, excepting in the mouth, which has bled a little this afternoon, from the surface of a small ulcer. Ptyalism considerable; tongue nearly clean; pulse 120; no stool.

℞ Magnesiæ sulphatis ℥iv.
Infus. rosæ ℥vi. Fiat mistura de qua sumat cochlearia tria larga sextis horis.

16th.—Sleeps well at night; bowels open; feces natural; urine copious and straw-coloured; pulse 100; appetite improves. She got out of bed this morning with but little assistance; salivates freely.

Continuetur mistura.

19th.—The bowels are regular, and the evacuations natural; appetite tolerably good; mouth much better; salivation diminishing.

Discontinue the mixture.

℞ Acidi sulphurici diluti m. viii.
Tincturæ cardamomæ compositæ ℥ss.
Decocti cinchonæ ℥x. Fiat haustus ter die sumendus.

25th.—She walks out, and, with the exception of a slight tenderness of the mouth, and weakness, is now entirely well.

Case II.—*May* 5, 1815.—I was desired to visit Mrs Hiscroft, whom I found complaining of constant and severe pain of the head, variable in its degree, but occasionally so violent as to make her

scream out. She is unable to raise her head from the pillow; a very manifest preternatural heat is communicated to my hand, when applied to the forehead; she has nausea, and has frequently vomited, but has obtained no relief from it; the eyes have a heavy aspect, and are averted from the light; tongue dry and white; pulse irregular, varying from 70 to 80; bowels constipated; there is a considerable thirst. The patient is about 30 years of age, of a dark complexion, tall, and thinly made; she has been married several years, but has never born a child. She attributes her illness to taking cold five days ago, whilst menstruating, which produced a cessation of the catamenia two days sooner than usual. She is at this time ordered some aloetic pills, with calomel, every three hours, until they purge the bowels; afterwards to take the common saline mixture in a state of effervescence, and to have a blister applied to the nape of the neck.

6th.—The pills have operated very freely, and the blister has risen well; however, all the symptoms continue, and with undiminished violence. Apply two leeches to each temple, and continue the saline mixture.

7th, 10 o'clock, A. M.—The orifices made by the leeches bled freely, yet the severity of the symptoms is not mitigated. She was slightly delirious yesterday, though there is not to-day any aberrations of the mind. I now took ten ounces of blood from the arm, and directed the head to be shaved, and to have linen kept wet with equal parts of vinegar and water (cold) constantly applied to it. No stool. The aloetic pills, with calomel, and the saline mixture, to be continued.

8 o'clock, P. M.—Since the bleeding the pain has not been quite so violent. The blood is sizy, but not cupped. The lotion has been assiduously applied to the scalp. There is still a morbid sensibility of the retinæ, and the eyelids are constantly closed to exclude the light; the brows are knit, and the countenance expressive of great distress. The patient has not vomited during the day. Urine small in quantity and high-coloured; tongue furred; thirst considerable; pulse 72. The pills have not operated.

℞ Magnesiæ sulphatis ℥i.
Infus. sennæ tart. ℥vj. Fiat mistura cujus sumantur cochlearia tria magna tertiâ quâque horâ donec alvus bene respondeat.

8th, 10 o'clock, A. M.—Slept, in the whole, during the night, about three hours. There has been no sickness. All the mixture is taken; it has produced several dark and fetid stools. The pain of the head is less; the tongue is white; great thirst. Pulse 66.

Continuetur lotio.

Capiat hydrargyri submuriatis gr. iii. tertiis horis.

8 o'clock, P. M.—The excessive thirst still continues. Tongue white at the edges, dry, and of a brick-red colour in the middle; skin hot; pulse 80. She has had several dark-green and offensive alvine evacuations. The pain has been increasing the whole of the

day, and is at this time very severe; the least motion of the head greatly augments it. The urine, which is small in quantity, is high-coloured. She was now again bled, and had a blister applied behind each ear; also directed to continue the use of the calomel.

9th, A. M.—The blisters have occasioned a copious serous discharge. The calomel, of which she has now taken eighteen grains, has purged her considerably. She is in less pain, and can bear the light better; the tongue is still furred, but not so dry; pulse 84. Apply six leeches to the temples, and let ten drops of the tincture of digitalis be taken with each dose of the submuriate of mercury.

9 o'clock, P. M.—The leeches produced a copious discharge of blood. She complains a good deal of the blisters, but is nearly free from pain in the head; was sick in the early part of the day and vomited. The tongue is cleaner and moist. The condition of the retinæ is completely changed. She can now look full at the light, but sees objects very imperfectly, though there is nothing remarkable in the appearance of the eyes. Urine passed during the day about a pint, high-coloured, and without sediment.

Persistat in usu hydrargyri submuriatis, et tincturæ digitalis.

10th.—Slept several hours last night; passed three dark-green stools. Within the last three hours the pain of the head has been increasing.

11th.—The breath is slightly mercurial, and she complains of some soreness of the mouth, but there is no salivation. There have been four or five stools of a similar character to the last. The urine deposits a lateritious sediment. The head is easier, but the shooting pains, when it is lifted from the pillow, are still experienced. Pulse 80. She dislikes the digitalis, and refuses to take any more of it. Her opinion is, that the cold lotion to her head affords her the most relief.

Continuetur hydrargyri submurias nocte et mane.

12th.—Since yesterday morning the appearance of the patient is greatly changed for the worse. She is very lethargic, and cannot keep her eyes open without constant exertion. She complains less of the head than of a general uneasiness over the body. Is frequently sick; the least motion produces vomiting. The pupils are considerably dilated, and she scarcely sees any thing. Skin cool; thirst less; pulse 70.

There has been no discharge from the bowels for twenty-four hours. The case is now evidently verging to the second stage of the disease. Some effusion has most probably taken place.

℞ Pulveris jalapæ ℈i.
Magnesiæ sulphatis ʒii.
Infusi. sennæ tartarizati ʒviii. Fiat haustus quamprimum sumendus.

℞ Hydrargyri submuriatis.
Pulveris radicis scillæ ää gr. iii. Fiat pulvis omni trihorio capiendus.

9 o'clock, P. M.—The opening draught was returned from the stomach; and, having had no stool, she took in the early part of the afternoon two pills containing four grains of calomel and eight of the ext. colocynth. comp. She has since had a copious green motion. Pulse 80. The appearance of the eyes and vision do not differ from the report made in the morning. As soon as the bowels were open she began taking the powders of calomel and squills.

Applicetur emplastrum lyttæ inter scapulas.

13th.—The blister has risen well. The pupils, though much dilated, are not as large as they were yesterday; but the vision is equally imperfect, and the eyes have the vacant expression observed in amaurosis. There is now no pain in the head; tongue much cleaner and moist. The face is swollen from the mercury, and there are several mercurial ulcers in the mouth. The bowels have been much purged, and vomiting occurred several times during the night. Pulse varying from 80 to 88.

Repetantur pulveres.

14th.—The patient is much in the same state as reported yesterday. The chief and most striking symptoms are great prostration of strength, and dilated pupils, with impaired vision. Pulse 80.

℞ Hydr. submuriatis
Pulveris radicis scillæ, aa gr. xviii.
——— digitalis gr. iii. Misce et divide in portiones æquales sex, de quibus sumat unam quartis horis.

15th.—She has had one copious and more natural motion, and has also passed, in the last twenty-four hours, a quart of urine, which greatly exceeds the quantity evacuated in the same period since the commencement of her illness: it is without sediment, and not of so high a colour as the urine was observed to be in the early part of the disease. She does not yet see any better, and the eyes in every respect remain the same. The mouth is very much complained of, but the ptyalism is moderate. Pulse 72.

Continuentur medicamenta.

16th.—I called upon my patient last evening, and found the pulse as low as 66, which I thought might have been effected by the digitalis: they are now 80; and, as the medicine has not been regularly given during the night, that notion appears the more probable. The slightest motion of the body in bed increases the frequency of the pulsations; the pupils are dilated, and the vision is evidently improved. The feces are more natural in colour. Ptyalism very considerable.

Continuentur pulveres. Omittatur lotio.

18th.—To-day, for the first time, she thinks herself better. Vision much improved; bowels regular; urine deposits a lateritious sediment; somewhat more than a quart is passed in 24 hours.

21st.—She is progressively getting better. Pulse 75; the alvine discharges, though not quite natural, are greatly improved in character; vision nearly perfect. She finds herself excessively weak.

Hitherto she has taken scarcely any thing but gruel and toast-water. A more nutritious diet is now allowed her, as there is some inclination for food. Discontinue the powders.

℞ Pulveris radicis scillæ gr. v.
——— digitalis gr. i.
Pilulæ hydrargyri gr. iv. Fiat bolus nocte maneque sumendus.

℞ Tincturæ cinchonæ compositæ ℥ss.
Decocti cinchonæ ℥vss. Misce, pro mistura, cujus sumat cochlearia tria magna ter quotidie.

27th.—With the exception of slight debility, there is now no complaint; vision is perfect, and the pupils are contracted to their natural size, which is small; the mouth continues sore, but the ptyalism is diminished; appetite good. The medicine is discontinued. She has taken 173 grains of calomel, besides what was contained in the opening pills, and 24 grains of the blue pill.

Case III.—*February* 3, 1816. Jane Willis, aged three years and six months, is of a fair complexion, with light hair, and blue eyes. She is small, and remarkably delicate in her appearance. In her infancy, she with difficulty recovered from a severe attack of pneumonia. Since this illness, she has rarely been well for any considerable period: her abdomen has been hard; bowels costive; and the stools often clay-coloured. She was last evening seized with a violent convulsion, which was preceded for two or three hours by a headach. This morning there was a return of the fit. A good deal of pain is complained of in the head. When asked where it is situated, she applies her hand to the vertex. The pupils are contracted, and the light gives her pain. She is at this time very irritable; answers questions clearly, and very distinctly, but with evident impatience. The tongue is covered with a white fur; skin hot; face flushed; pulse 150. She has been sick, and twice vomited. A leech was directed to be applied to each temple.

℞ Hydrargyri submuriatis gr. xii,
Pulveris jalapæ ℥ss. Misce, et divide in chartulas sex. Sumat unam tertiâ quâque horâ donec alvus bis terve respondeat.

4th.—The blood flowed freely from the orifices made by the leeches; and, though no more than two were applied, she fainted, for a short time, from loss of blood. Three of the powders having been taken, without producing any effect upon the bowels, she had yesterday afternoon a purgative enema, and she took in the night two powders, each containing a grain of calomel and a grain of pulv. antimonial. since which the intestines have been copiously evacuated. The discharges at first had a natural appearance; latterly, however, they were dark, and very offensive. Since the time the *glyster* was given, she has not been sensible, nor has she taken the least notice of any thing. Passed a restless and feverish night, frequently screaming vio-

lently; pupils contracted; pulse 120. I directed that she might be kept as much as possible in the erect posture, and that the head might be shaved, and have the following lotion constantly applied to it.

℞ Spt. æther. sulphuric.
—— vini rectificat.
Acid. acetos. āā ʒii. Fiat lotio.

℞ Hydrargyri submuriatis gr. xii. in portiones equales viii. dividenda; sumat i. tertiis horis.

5th.—She had one dark-green stool yesterday, and two of the same kind in the night, but she passes both feces and urine without giving any information of it; of course, neither the quantity nor the quality of the latter can be ascertained. A blister was applied last night to the nape of the neck; it has risen well. She is now asleep; breathing natural; skin cooler; pulse 120. The abdomen feels soft. On lifting one of the eye-lids to observe the state of the pupil, it was found to be contracted almost to a point; but the child being roused by it, it became instantly dilated, almost to the whole extent of the iris. At the same time, the nostrils were expanded, the hands clenched, and she screamed violently. Continue the lotion and powders, and apply a leech to each temple.

6th.—The leeches occasioned a considerable discharge of blood. Had three green stools since the last report. She lies with eye-lids half open, but closes them when a candle is brought near. The pupils are not so small; they contract when the eyes are exposed to light; the vessels of the conjunctiva are turgid; and there is increased secretion from the meibomian glands. She swallows a little gruel when it is put into her mouth. Passed a restless night; pulse 130.

Continuentur pulveres.

7th.—Accidentally calling upon my little patient yesterday afternoon, I found her moaning most piteously; her skin was hotter, and the pulse more frequent, than in the morning; the pupil of the right eye was considerably dilated, and sluggish in its movements; that of the left was also larger than it had been observed to be. As she had had no motion for several hours, I gave her, at once, two drachms of castor oil, which, by the evening, (when I again saw her,) had procured one stool. She was then moaning as before, and continually moving her right hand towards her head, whilst the left lay motionless by her side. Has had rather a better night, and passed another dark green stool. She is now fretting, and the countenance has an aspect of great distress; the tongue is moist, though furred at the back part; the dilatation of the pupils observed yesterday is nearly gone; there is, however, slight strabismus. The blisters have discharged copiously; pulse 130.

Continue the calomel.

8th.—She slept four hours yesterday, and had one stool of a similar character to most of the preceding evacuations; she also passed a considerable quantity of urine. The eyes look more natural; but, as she

has neither taken any notice of surrounding objects, nor spoken since the second day of the attack, it is difficult to say what degree of vision she possesses, though it is evident that she does not see perfectly. For the first two days of her illness the least noise would rouse her; but now, any sound may be made in the chamber without exciting her attention. Another blister was last night applied upon the nape of the neck. In the night she had a stool, which was somewhat improved in appearance; tongue cleaner; pulse 115.

Continuetur hydrargyri submurias.

9th.—On entering the room, she looked up as if to observe me. This is the first time that I have had an opportunity of examining the eyes, without myself lifting up the lids. They look clear, and the pupils are of the natural size, though there is yet a particular vacant stare, which is increased by the straining effort by which she opens her eyes. The expression of the countenance is that of distress and anxiety, and her face is pallid. She has had a dark green and glossy stool, and has vomited several times; skin cool; pulse 115.

Dress the blister with the ceratum sabinæ, and go on with the calomel.

10th.—She has had a fit of screaming, which lasted nearly the whole of yesterday. Since the last report there have been four evacuations from the bowels, two very dark and fetid, and two of a pale green colour. Has taken, during the night, nearly a tea-cupful of arrow-root. She is quite incapable of drinking any thing in the usual way; therefore, whatever she has is given her with a spoon. Her mouth being constantly kept open, is at all times very dry, and requires to be continually moistened. The pupils are large, but their function is perfect; the vacant stare remains. She has not yet made any attempt to speak. Last night she slept better than usual; pulse 108. The calomel has not affected the mouth.

℞ Hydrargyri submuriatis gr. xviii. in portiones equales viii. dividenda, de quibus capiat unam tertiâ quâque horâ.

11th.—She has had a tolerable night; her expression this morning is much improved; and to-day, for the first time, her sensibility has been evinced by shedding of tears; she has also moved her right hand and arm in a way more indicative of being directed by the will, by rubbing the eyes, &c.; the left arm is evidently paralytic; it lies by the side motionless, as before; pulse 110.

Persistat in usu hydrargyri submuriatis.

12th.—As she had cried and screamed nearly the whole of yesterday, and, on visiting her last evening, finding her very restless, I gave her then eight drops of the tinctura opii, which succeeded in removing the irritability of the system, and procured her a tolerable night. She has taken some nourishment; her look is more intelligent; and she has once attempted to speak to her mother, but was unable to articulate. Had three green stools; tongue nearly clean; pulse 120.

Omit the calomel, and, in its stead, let half a drachm of mercurial ointment be rubbed into the thighs night and morning;

and give her three grains of the essential salt of bark every four hours.

13th.—She screamed at intervals a good deal yesterday: notwithstanding this, however, I found her in the evening still improving. I asked her to give me her hand; she instantly held it out; and afterwards took my watch, and looked at it for a few moments. She has sneezed a good deal during the day, as well as for several days past. The opiate was repeated last evening, but the night was not passed so comfortably as the preceding. This morning she sat up by her own strength, in her mother's lap, for a minute or two, and has for the first time, in reply to questions, answered in the monosyllables Yes and No; but she speaks very slowly, and with great effort; the difficulty is probably augmented by the hoarseness which the screamings have occasioned; pulse 98; tongue nearly clean.

Omittatur lotio.

Continuentur medicamenta.

14th.—Passed a tolerable night; made a considerable quantity of pale urine. The eyes look intelligent, though the pupils are yet a little larger than natural; and she certainly does not see perfectly; for, when I held my watch at a little distance for her to reach it, she would sometimes put her hand on one side, and sometimes behind it, as if she had lost the power of measuring the distance of objects. When I desired, she would put out her tongue, which is clean; pulse about 100; appetite improving; she is unable to stand.

Pergat.

15th.—Having had no stool yesterday, she took last evening two drachms of castor oil, which has occasioned a copious and natural evacuation. She has either forgotten the names of many things, or is unable to articulate them; she therefore experiences great difficulty in making herself understood, which frequently irritates her exceedingly. Her manner of speaking much resembles that of a child who has not learnt to talk. She does not use her left arm; and her inability to walk arises from the same loss of power in the left lower extremity; she is, however, in all other respects better; pulse 100. The blister at the nape of the neck, dressed with ceratum sabinæ, has discharged very copiously, but is now to be suffered to heal.

Continue the essential salt of bark and the mercurial friction.

16th.—She now sees tolerably well, and talks better than before, though the sound of her voice is astonishingly altered. She is sitting in a little chair, with a stool before her, cutting paper, which she continues to hold, but most awkwardly, with her left hand; had one stool of a healthy appearance. The rubbing-in of the ointment is violently resisted, and is to be discontinued.

℞ Hydrargyri cum creta ʒi. divide in chartulas sex; una nocte maneque adhibenda.

Go on with the bark, and let the liniment. ammon. fort. be well rubbed into the left arm and leg twice a-day.

18th.—The use of the left upper and lower extremities is progressively returning; but she is yet unable to walk. She, however, con-

those described by Dr Cheyne, which, whatever may be the difficulty in the early period, exhibit a striking picture of the advanced stage of acute hydrocephalus:—"How (he remarks) can we mistake, when we see a child rolling his head on the pillow, or perhaps sawing the air with one hand while the opposite side is palsied, with a hectic on the cheek, his eyelids half concealing the pupil, and the eye deprived of its vivacity by the flimsy covering of the cornea; the complete dilatation of one or of both the pupils, and the suffusion of the adnata; drawing a long sigh; frequently grinding his teeth; quite incoherent, or in a state of complete insensibility, with a burning fever in his skin, or sweat forced from every pore; and all these symptoms alternating with, and at last finished by apoplectic breathing and violent convulsions."—(Essay, p. 22.)

Squinting, which depends on the unequal power of the muscles which move the eye, I did not observe in the following case; indeed the eye seemed motionless, and all its muscles to be paralysed for some time. Neither did I perceive the "pulsus tardior," and it has also escaped the notice of others, though doubtless, in well marked cases, there is a foundation for such a division. In the present example, from the convulsive agitations of the child, or the succeeding exhaustion, it became extremely difficult to estimate the pulse on some of my visits; but generally it was very quick, and it was always more or less accelerated whenever I could correctly ascertain the state of the circulation. Illustrative of the existence of effusion without these occurrences, and of the great extent to which it may gradually take place without inducing symptoms of pressure, may be adduced, amongst others, a remarkable case of hydrocephalus, recorded by Dr Male, in the ninth volume of the Edinburgh Medical and Surgical Journal, in which, "on opening the ventricles, a quantity of fluid, measuring *three quarts*, escaped." Notwithstanding the presence of this enormous quantity of water in the head, "strabismus never occurred at any period of he disease, nor any spasmodic affection, nor was the pulse ever slower than natural, but frequently quicker, accompanied by slight fever. Fatuity, which is the usual concomitant of the advanced stage of the disease, did not exist; on the contrary, the mental faculties were not in the least injured, and the child was as quick and sensible as children of that age usually are."—(*Loco citato*, p. 398-9.)

After adverting to the difficulty of discriminating in some cases, it may not be improper to notice some of the symptoms which are considered as more especially belonging to hydrocephalus acutus, and as chiefly distinguishing it from febris infan-

tum remittens. These are, aversion to light, even early in the disease; knitting the brow; rubbing the back of the head on the mother's arm, and endeavouring to thrust the head backwards; fits of screaming; strabismus, and moving the hands about the head; while in the infantile fever, as Dr Pemberton judiciously observes, "though the hands are often carried to the face, it seems to be more from an inclination to pick the skin from the lips, eyes, and nose, than occasioned by the painful restlessness which attends the hydrocephalus internus." (See his useful "Practical Treatise," &c. 4th ed. p. 166.)

It has also been attempted to found a diagnosis upon the remissions in the one case, and in the other, on the state of the excretions, vomiting, inability to bear the erect posture, and other symptoms; but none of them can be depended on individually; it is only from the assemblage of symptoms, the manner they are grouped, and the order of their succession, that we can deduce the existence of hydrocephalus. In the subjoined case of Harriot Buckland, the alvine discharges were extremely offensive, generally very dark, or even black, and sometimes green; but I regret, from not having attended particularly to this point at the time, that I am unable to say whether they were ever of that kind which some have denominated hydrocephalic, and upon the cause of which a difference of opinion exists. Dr Fothergill and Dr Cheyne give a similar description of their appearance. The latter author, in his very valuable Essays on Water in the Brain, observes, "Stools of the same nature with those which are generally passed in hydrocephalus, are seldom seen in any other disease. They resemble boiled liver, forming a dark-green gelatinous mass, with an oily-looking surface, and are of a sickly, but not fetid smell; they consist of flakes of inspissated bile, which gives them their colour, and of the mucus of the intestines. Diffused in water they do not render it turbid, and scarcely change its colour." (Vide 2d ed. p. 64.) Some other practitioners, on the contrary, as Dr Armstrong and Dr Porter, consider those dark-green glossy motions as arising from the exhibition of calomel. Notwithstanding the weight I attach to the talents of these able physicians for observation, I distrust this, at least as a general conclusion; because, although I am aware that the use of this medicine, in many cases, does produce motions of a green colour, I have seen the substance in question, which the latter gentleman has not unaptly characterized as resembling green "turtle fat," where no calomel had been administered for at least some weeks before, and if then, in a trifling dose only. I observed it particularly in one girl, seven years and a half old, at the com-

mencement of a very severe attack of abdominal inflammation; and in another aged four years, the same matter was voided in considerable progress of formation, less perfect indeed, but the identity appeared to me unquestionable, though the child manifested only slight signs of indisposition, and has since been in perfect health. In both instances it was produced, or, I should rather say, brought away, by an infusion of senna; and I therefore lean to the opinion of the enlightened editor of the Medico-Chirurgical Review, that calomel, especially when it gripes much, (and, for the same reason, senna, &c.) dislodges green and fetid secretions, rather than creates those coloured evacuations." (Vol. I. pp. 596, 597.) Their fetor, however, must depend on the admixture of other matters; for the peculiar green gelatinous substance in question is almost inodorous, or rather, it has a sickly or faint medicinal smell, somewhat, I think, resembling that of jalap. I have subsequently seen this matter again brought away from the first of these children, after taking the senna mixture, though the motion preceding it had a nearly natural appearance; and I remarked that she complained previously of more griping than usual. I am therefore disposed to consider such dejections not as pathognomonic, nor peculiar to the disease in question, but at the same time as indicating a disordered state of the hepatic and intestinal secretions, requiring our most watchful attention, as it may predispose to, or, if not remedied, may terminate in, hydrocephalus.

The question here alluded to would at first sight appear to be of much easier solution than it really is; for, from the facility with which calomel is given, and its great value in the diseases of children, few practitioners, I believe, would deem themselves justified in omitting mercurial purgatives, when the symptoms threatened the invasion of this fatal disease. In the latest case of hydrocephalus which I have witnessed, the appearance of the stools certainly changed after the exhibition of calomel, at least, the first motion which I saw consisted of glairy, dirty, yellow mucus. They afterwards became, and continued to the last, of a dark-green colour, like spinage, extremely viscid and tenacious, which appeared to depend on the very glutinous nature of the intestinal mucus, with which the bile was mixed; but they had not that glossy gelatinous appearance above described. In this very deceitful case, under the external and internal use of mercury, there was a gradual improvement of the sensorial powers during the last five days; and after having lain in a state of insensibility for more than twice that period, the speech, vision, and intellect, were in a great degree re-

stored. Small quantities of yellow recent feculent matter appeared among the green in the two last motions; the secretion of urine was copious; and the little patient opened his eyes, and followed my movements in every direction only a few hours previous to his death.

Much light has been thrown upon the pathology of hydrocephalus of late years; and, as has been already adverted to, instead of the effusion of serum in the ventricles being regarded as the primary disease, or the cause of the more dangerous symptoms, it is now believed to be the effect or consequence of cerebral inflammation, or excitement, or of venous congestion, from irritation of the brain, original or symptomatic. For the latter view of the subject, we are more especially indebted to Drs Cheyne and Yeats, whose excellent publications have forcibly directed attention to the digestive organs, as the "Fons et origo mali," by showing how very frequently this disease arises from a disordered state of the chylopoietic viscera.

One of the latest contributions to our pathological knowledge with which I am acquainted, is from the pen of Dr Porter, who ably contends, that the disease in question is not phrenitis, (though he admits that inflammation of the meninges may be superadded,) but an inflammatory condition of the posterior arteries of the encephalon, and of the base of the brain.—(*Vide* Medico Chirurgical Journal for January 1819.)

It would be altogether diverging from the intention of these fleeting remarks, to enter upon the reasoning adduced in his valuable paper, or the *post mortem* appearances upon which the distinction in question is founded; but I have no doubt that, in the future investigations of pathologists, it will meet with that attention which the interest of the subject demands.

Men of the first observation and experience have differed upon the question of absorption; and authors appear to me to have gone to opposite extremes, when they assert, either that recovery never, or that recovery not unfrequently, takes place after effusion has occurred. However hopeless, generally speaking, is the nature of hydrocephalus in an advanced stage, my own opinion is, that recoveries do sometimes happen. In explanation of this opinion, I beg leave to remark, (although in some cases death appears to take place from effusion, without disease being observed in the substance of the brain,) that, as the worst symptoms of hydrocephalus acutus have been witnessed in cases where little or no effusion of serum has been afterwards found in the ventricles, it seems a highly probable conclusion, that, generally, its fatality does not so much depend upon the

of those vitally important parts, which late pathologists have shown to be the chief seat of that diseased action, of which effusion is only one of the consequences. In other words, that the issue here depends on whether this morbid condition has proceeded so far as (by the deposition of coagulable lymph, or alteration of the structure of the central parts of the brain) to be incompatible with life or not. In the latter case, the injury sustained is probably not greater than the powers of nature are capable of repairing; and in the process of reparation they may be aided by the co-operation of art. On this point, I speak with the diffidence belonging to limited experience; but my observation of the utility of this medicine, in occasional cases of oppressed brain supervening in fevers, after the abatement of increased heat and vascular action, leads me to agree with Dr John Clarke, (Diseases of Children, p. 179,) that in this stage "mercury appears to be the only remedy which has been successful in the cure of acute hydrocephalus;" and although my expectation of its curative influence in such cases is less sanguine than that which seems to have been entertained by this experienced practitioner, and some others, I am inclined to consider the following as an instance of this description. To this idea, however, I wish to attach no undue weight; it is a mere matter of opinion.

Clifton, March 1820.

Case.

Harriet Buckland, ætatis 17 months, on the 13th October 1818, was shown to me while asleep. Her mother said she had been very heavy lately, and frequently laid her head down. She had been ill about a fortnight. I considered it a case of infantile remittent: ordered a mercurial purge, with some senna tea, and advised a note of admission to the Dispensary to be procured. I heard no more of her until the 16th, when I was sent for, and found her alarmingly ill, convulsed, comatose, and with a very quick pulse. I directed leeches to be applied to the temples, and the following powders:

℞ Hyd. submur. gr. ij. P. jalapæ gr. v. Sach. gr. viii. M. habt. doses ii.; 1 sumend statim et repetr. h. s. Capt. etiam inf. sennæ ʒvi.; et repr. nisi prius respondeat alvus.

17th.—But three leeches were applied yesterday, and only two of them bled freely. The child lies in a state of coma, but cries out occasionally; the pupil is insensible to light; the pulse quick; the motions black and offensive. I think it here necessary to observe, that I wished to order the repetition of leeches; but in this, as in almost every subsequent part of the treatment, I was so much opposed by the grandmother, who was a strong advocate for leaving every thing to the will of Providence, that I was only induced by the pro-

mises and earnest entreaties of the child's mother to continue my attendance.

Repr. pulveres ex jalapa et calomel. No. iij ; Capt. 1 statim, et repetatur hora somni.

18th.—She has been frequently purged since yesterday. The motions are perfectly black, and so offensive as to taint the room for some time afterwards. The eye-lids are closed, reddish, and tumid ; on being raised, the eyes look suffused, inanimate, and watery, and the pupil is perfectly insensible to the stimulus of light. The child is very comatose, and frequently convulsed. The pulse is very quick.

Applicentur hirudines ij. sing. temporibus, et postea imponatur vesicatorium nuchæ. Nec non utatur balneo tepido et fomentationibus pro re nata.

R. Hydr. submur. gr. iij. P. jalap. gr. vi. M. habeat doses ij. Sumat. 1 statim et alteram hora somni.

19th.—Three dark and extremely fetid stools. Very restless in the night ; tossing about, moving her hand to her head, and frequently convulsed. The blister has not risen. She appears to be now completely comatose, and insensible. The pupil is dilated, and the pulse is very quick.

Repr. pulv. ex jalap. et hyd. sub. doses iij. ; 1 statim, et repr. 4ta hora, iterumque h. s. Foveantur abdomen et crura.

20th.—The mother sent up P. M. to say that the child was still worse ; and so strongly convulsed, at times, that she could hardly hold her. An enema, with castor oil and assafetida, was prescribed, but was not exhibited. The child is quieter and less insensible today. The blister has risen well at last. The bowels are very open, and the motions are still dark, but less fetid.

R. Hydrarg. submur. gr. xij. Sacchari ℈ij. M. divide in chartas vi. sumat unam sexta q. q. hora.

21st.—The child frequently opens her mouth very wide, as if yawning. This gaping motion has continued ever since yesterday, and alternates with a kind of mumbling or biting motion of the lips ; but she is not so comatose, more sensible of stimuli, and cries as if in pain when the head is moved or raised. The pulse, too, is rather less quick.

Contr. calomel 6ta q. q. hora ut heri præscript.

22d.—Notwithstanding the unfavourable state of things, as there was some slight appearance of amendment yesterday, I was induced again to recommend a trial of leeches, and obtained a promise that hey should be applied ; but two only were tried, and I was told they would not fasten. To-day she seems in an almost hopeless state. She makes no movement of the left leg, which seems paralysed, but the right is frequently extended and retracted. She is constantly moving her head from side to side on the pillow, and biting and moving her lips, but with less frequent gaping than before.

Perstat in usu calomelanos gr. ij. 6ta q. q. hora.

23d.—She has had no convulsions since yesterday, and seems somewhat more sensible, and expresses pain when moved. She appears dimly to discover objects passed close before her eyes. The stools

are less dark and offensive, and now greenish, probably from the calomel. The pulse is still quiet.

℞ Ungt. hydrargyri ℥ss. Inungr. ℥ss. 6ta q. q. hora somni
Repr. pulveres.

24th.—The most decided opposition was made to the inunction, and I was obliged to give it up on condition that the powders should be punctually administered. The child appears more sensible to-day, and the pupil contracts a little on the approach of light. The pulse is still quick, though less so than it was. The bowels open.

Repr. pulveres ex calomelane.

25th.—The stools are become yellow, and the child is more sensible.

Repetantur pulveres mercuriales.

27th.—The evacuations are now yellow, and of a more natural appearance, but they are less free than they were. The child is sensible, and her cheeks are at present flushed with passion, from not obtaining something she wishes.

Repr. pulveres.

28th.—She can use the left leg now, as both are frequently retracted with a struggling kicking motion; but the left arm seems to be more helpless than the other. She frets and moans as if in pain.

Contr. calomelas u. a.

29th.—Her mother says she first observed her to look up, and to observe what was going on, yesterday. To-day both eyes are open, but they look dull and filmy, like those of a fish, though she winks when any thing is opposed to them. She has a tasting kind of motion of the lips, and uses both hands. Three yellow motions.

Repr. pulv. hyd. submur. No. vi. ut antea.

30th.—She is better in all respects.

Nunc sumat pulverem nocte et mane tantum. 1 vesic. contr.

Nov. 3d.—She was more feverish and peevish yesterday, and the motions greener and more offensive. She is now very cross and irritable.

Ommittr. pulveres. Capt. syr. papav. coch. parv. h. s.

℞ Pulv. jalapæ gr. vi. Hyd. sub. gr. ij. M. habt. ij. Capt. 1 mane.

5th.—The powder produced some blackish offensive matter, but the stools are now natural again, and the sensorial affection seems nearly gone.

Cras vel prostridie habeat pulv. catharticum si opus sit.

10th.—The child has apparently quite recovered the use of her limbs, and is free from all sensorial symptoms.

30th.—Saw the child to-day, who appears almost quite recovered. She eats enormously.

Habt. pulv. purgant. No. iij. et capt. unum pro re nata.—*Dicharged.*

26th Jan. 1819.—I observed the child to-day running about, and her mother says she continues quite well.

P. S.—Saw her several months after the last date in perfect health.

XII.

Cases of the Epidemic Cholera. Communicated by J. H. Walker, A. M. M. D. Late Surgeon of the 73d Highland Regiment. From the Correspondence of a Friend.

Inclosed I beg to forward a letter from a friend, a captain in his Majesty's 84th regiment, on which the greatest reliance may be placed, as Captain P. is a most intelligent and observing officer. I also send a case or two of the disease alluded to in his letter, which is the epidemic spasmodic cholera morbus, as it prevailed throughout the Continent of India.

Having obtained leave of absence from my regiment, stationed in the Island of Ceylon, for the purpose of exchanging on the half pay, I left that island, and touched at the Presidency of Madras, where I learned there were detachments of the 25th light dragoons, the 84th and 86th regiments, to proceed to England, and a medical officer was required; upon which I reported myself to Colonel Macgrigor Murray, Deputy Adjutant-General to his Majesty's Forces there, and tendered my services for that purpose. I was accordingly put in general orders for that duty, and joined the six companies of the 84th, (which lately arrived in the ship Alfred,) at the south beach of Madras. In consequence of the men being allowed, as is frequently the case on leaving India, to extend their services to regiments remaining, and receiving a bounty for it, there was much drunkenness and irregularity prevailing among them. Exposure to the scorching sun; the hot winds, as they term them, just setting in; the epidemic that had been at Madras before, made its appearance in my detachment; and a soldier of the 84th, who had concealed his complaint until the fatal symptom of cramp in the thighs and calves of the legs came on, was reported sick. He was conveyed to the general hospital, which is about half a mile or thereabouts from the encampment at the south beach. Every assistance from Mr Sargeant the assistant, and the surgeon to the establishment, was afforded, but the man fell a sacrifice to the disease, and his imprudence in concealing his complaint until so far advanced. This body was opened in the presence of the two medical gentlemen alluded to, *i. e.* Mr Ainsley the surgeon, Mr Sargeant the assistant-surgeon of the hospital, and Mr Forster and his assistant, of his Majesty's 46th. The intestines, which we first inspected, shewed evident signs of congestion; the colour of the

innumerable distended vessels was more of a brick-dust colour than florid. We all observed that his liver was unusually healthy-looking for an Indiaman. I understood that there were little or no marks of diseased appearance in the brain. I myself was under the necessity of leaving the body to attend at the beach, where some others were threatened with this disease.

I found, however, that when the men complained early, *i. e.* when the looseness first came on, with sickness at stomach, indeed, at any time before the cramps seized them, the chances for a recovery were more to be calculated upon; and there is no time whatever to be lost, but a practice as bold as the disease seems to be desperate, was absolutely required, to be of any chance in saving the patient. When I was acquainted with the sickness or complaint of a patient, I first bled him profusely in the horizontal posture; administered very large and often repeated doses of tinct. opii in brandy or arrack, which appears at first to be rather extraordinary practice, but which I found to succeed better than any other suggested; enemata were also administered, with their proportions of laudanum in them. When the vomiting and purging abated, the submur. hyd. was had recourse to, either with or without opium, at the discretion of the practitioner. When the cramps came on, I had reliefs of men to rub in stimulating embrocations with flannel or the like. I have little faith in the warm bath,—I think it is losing time,—and the application of heat any other way is better, say by a vapour bath, for I observe the patient always complains of being much colder when taken out of the warm bath, which is very natural, if the temperature is greater than that of his body,—and all that time, as I already observe, is lost, which we might employ in other exertions more calculated to relieve the sufferer. There is very little inclination to make water in the cases I have seen of the disease, and the evacuations by purging are of a watery nature, with small flocculi not unlike bits of chewed paper floating in them.

The first case I saw of this disease was that of the senior assistant of my regiment, at Trincomalee, immediately after my return from the province of Matele, (Kandyan territory,) where I had been for about three months with a detachment of the army sent there to subdue the rebel chiefs who had taken refuge in that part of the island. As soon as the vomitings and purging took place, he sent for me, and I made a free use of my lancet, which cut short the disease: he did well. The second case was that of a lieutenant of the same regiment, (73d,) who had been a long time poorly with a hepatirrhœa, and was on his way home on sick leave. He was not my patient,

although I had an opportunity of frequently seeing him. The symptoms of the epidemic spasmodic cholera came on him about 10 o'clock, and he died that day, notwithstanding every exertion was used by Mr P., the surgeon of his Majesty's 19th regiment, whose patient he was. This was not a fair case for the active treatment; the patient was much emaciated, and Mr P. could not use the lancet, but was obliged to trust to internal medicines, with vapour-bath, alone.

One of the cases transmitted herewith, the dragoon's, happened at sea. I do not recollect rightly, but I think we had crossed the equator southerly on our way home. I saw him as soon as he was taken ill, my cabin being next the sick-bay, and the plan stated was adopted, which effected a speedy cure. I must confess I was a little alarmed at the appearance of vomiting and purging in two or three others at the same time, and imputed it afterwards to some other cause; but the dragoon's case was a true one, putting on the alarming and most frequently fatal symptom of cramps. It is to be lamented, that the superstition which prevails among the several casts in the East prevents them taking any medicine, or putting much faith in us; as many suffer throughout the East from their apathy, added to their apparent contempt of death. Some of these poor creatures have been known, when sick, to go to some corner and cover themselves up in their comeleys, and die with more indifference than any of us would go to rest at bed-time. I should be led to think, from the only case I saw opened, that there was an evident determination of blood to the intestines, particularly the small ones; they appeared beautifully injected, but not florid. I should imagine, from the nature of the discharge by stool, that there was some defect in the secretion of bile; for it does not appear to be admixed either with the stools or the contents ejected from the stomach. I have been told, prior to my leaving the Island of Ceylon, that one of the medical gentlemen of the 83d, who had inspected many bodies that died of this disease, is writing on the subject. He seems to think that the heart puts on a morbid appearance, and that there is an atony of some part of this viscus to be detected; however, I am not sufficiently informed, from the few bodies I have seen opened of such as have died of this disease, to say any thing further on this subject.

London, 7, Palace Street, Pimlico.

Ship Alfred, at Sea, 27th October 1819.

Dear Walker,—According to my promise to give you the substance of my remarks on that horrible disorder, the Spasmo-

dic Cholera, which prevailed in several parts of India, and was attended with such fatal effects, I now shall do so, as well as my recollection at this moment enables me to do.

About the month of July or August last year, accounts reached us of a dreadful disorder which had made its appearance amongst the army stationed in the northern provinces of Bengal, and had carried off several, both Europeans and natives. Various opinions were formed of the cause, but none that were considered as entitled to weight, some attributing it to new rice, fish, &c. The attention of all medical men was engaged in endeavouring to ascertain the cause, and the treatment most likely to avert the fatal effects. All ranks of men, young and old, those who lived abstemiously, as well as those of irregular and intemperate habits, equally fell victims to it; but it was remarked that women and children were less frequently and less severely afflicted by it, although there were instances of it in the 84th regiment.

As far as my observation enabled me to judge, it appeared to me that those who lived intemperately, ate of fish and vegetables not sufficiently boiled, and were exposed to the noon-day sun, and the dews and cold of the nights, were more severely attacked. The symptoms observed were pain in the head, sickness in the stomach, vomiting and purging, and a great thirst, with cramps and spasms. It may be well to remark, that the disorder was observed to make its appearance about the full of the moon; it was not unusual for people to be affected two or three times. No particular part of the country appeared to be exempt from it, if we may judge from the course it took in the progress through the country, viz. from the northern provinces of Bengal, in a direction south to Calcutta, where several thousands died of it, to the northern Circars, as far as Masulipatam and its neighbourhood; from thence across the Peninsula to Bombay; from thence it took its course in a southern direction, along the west coast to Quilon and Travancore.

In the month of August its effects were felt in the division of the army stationed in the neighbourhood of the Kisnah river, under the command of Brigadier-General Pritzler, and soon after at *Bellany*, where the 84th was stationed,—a country fertile and healthy, without any rivers of note, but generally dry, except in the rainy or monsoon time. From Bellany it took its course south, and about half way divided towards *Mysoor* and *Madras;* at the former place several died, but at the latter, from medical aid being easily had, its effects were not so much felt.

In the month of May 1819, towards the end of the month,

a detachment of the 84th regiment and 25th Light Dragoons, under my command, encamped on the south beach Madras, close to sea, when, almost immediately, this horrible disorder, with all its fatal effects, made its appearance, and carried off some of our best men. I should here remark, that our men had been indulging freely in liquor for some time previous, and that they exposed themselves much to the sun by day, and the nights were remarkably cold. Bleeding freely, with stimulants applied to the limbs and body, calomel and laudanum in large doses, were found the best remedies.

These, as well as I now can recollect, are the points regarding this dreadful disorder, which most forcibly attracted my notice. I regret that I have not an opportunity of perusing my note-book, which contains some remarks which might be useful; but the Madras and Bombay newspapers, which may be seen at the Jerusalem Coffeehouse, I think may furnish much useful information on the subject. Your's very sincerely,

S. P.

To Dr Harding Walker, 73d Regiment.

Private JAMES LYNCH, of his Majesty's 84th regiment, aged 28, (cholera morbus,) admitted into the hospital on the 23d May 1818, at a quarter past 5, P. M. Says he was seized with a vomiting and purging about three hours ago.

At 6, P. M.—Was bled by having three veins opened; blood did not flow freely, and was of a thick consistence; lost about ℥xii. only. Took 60 gt. tinct. opii in brandy and æther; 40 gt. repeated fifteen or twenty minutes after; frictions to the limbs with flannel. Warm-bath, injection, warm brandy and water, &c. were all tried without effect. Sinapisms were also applied to both legs, but the patient died at half past eight o'clock the same evening.

Appearances on dissection.—Monday, 24th May 1819.—This is the case of the patient alluded to in my letter, whom I mentioned was opened at the general hospital by Mr Ainsley, Mr Sargeant, and in the presence of Mr Forster, his assistant, of the 46th, and myself.

Colour-Serjeant JONATHAN HOLMES, ætat. 31, his Majesty's 84th regiment, complains at 3, A. M., 26th May 1819, of having had a purging all night, and was then seized with a vomiting.

4, A. M.—A violent griping, accompanied with vomiting and purging. ℞ Cal. gr. x. Tinct. opii gt. lxx.

Half past 4.—Griping continues. ℞ Tinct. opii gt. l. Arrack ℥ij. M.

Bled by having two veins opened; lost ℥xii. of blood, which did not flow freely.

5, A. M.—He is seized with spasms in his legs. Fric. cum. flor. sinap. ℞ tinct. opii, gt. xl. Arrack ℥iii.

The spasms rapidly increasing; in about five minutes after, ℞ Tinct. opii gt. c. Arrack ℥iii. M.

Half past 5.—Spasms continue. ℞ Tinct. opii gt. c. Arrack ℥iii. M. Frictions continued.

Three-quarters past 5.—℞ Tinct. opii gt. l. Arrack ℥iij. M. Habt. enema anod.

7, A. M.—Has dozed in sleep for upwards of an hour; awakes with a return of vomiting and spasms, and complains of a violent pain in the small of his back. ℞ Tinct. opii gt. c. Arrack ℥iij. M. Repet. enem. anod.

Half past 7, A. M.—Is very restless; has had no sleep since 7. Eyes heavy. Expresses a wish of his effects to be given to his children and native woman. ℞ Tinct. opii gt. l. Rum ℥iij. M.

He commences breathing very heavy: his eyes are fixed, and at a quarter before 8, A. M., expires.

N. B.—This man was taken ill the forenoon of the night I saw him, being called out of my tent at 12 o'clock to see him, and found him violently purged, vomited, and cramped all over; he would not bleed, and nothing remained on his stomach. He died as is above stated. He was, I believe, opened at the General Hospital. Had I seen the patient when he first complained, the plan of treatment adopted might have succeeded, as I see no reason for its exception in one case more than the other, in men of constitutions capable of being treated thus. It succeeded in every case I was called to in due time. Two officers were the subjects which did well, and many of the men. I have only given the fatal cases, being those I have kept particularly.

Serjeant John Whitehead, his Majesty's 84th regiment, æt. 39, at 12 o'clock, 31st May 1819, (on board the ship Alfred, at anchor in the Madras Roads,) complains of a pain in his limbs, a vomiting, and cold sweats.

31st May 1819.—Was bled, and lost ℥xxx. blood.

At noon.—℞ Tinct. opii gt. c. Brandy, ℥iii.

2 P. M.—Complains of the pains in his limbs being worse, and much wind on his stomach. R. Spt. æther ℥ij. Tinct opii. gt. lxxx. M.

Half past 2.—R. Tinct. opii gt. xxx. Brandy, ℥ij. M.

3 o'clock, P. M.—So much easier. R. Tinct. opii gt. lx. Brandy, ℥iiij. M.

9 P. M.—℞ Tinct. opii gt. c. Arrack, ℥iij. M.

10 P. M.—The spasms attack him. Lost about ℥xxx. blood from the vein formerly opened.

1st June, 1, A. M.—The spasms reattack him. ℞ Tinct. opii gt. l. Arrack, ℥iij. M.

3, A. M.—The spasms attack him again, with vomiting. ℞ Tinct. opii gt. c. Sp. æther nitros. gt. l. Arrack ℥iij. M.

9.—Much better; has slept a little time back. ℞ Arrack ℥iij. cum Sulph. acid. et aqua. Cal. gr. v.

Noon, quarter less 1.—The cramp reseizes him in his hands. ℞ Arrack ℥iij. Tinct. opii gt. lv. M. Discontinue sulph. acid. ℞ Cal. gr. vi.

Half past 3, P. M.—The cramp revisits him. R. Spt. æther nitros. ʒiij. Arrack ℥iij. M.

9 P. M.—He is again seized with the spasms, and a purging. R. Spt. æther nitros. ʒij. Arrack ℥iij. M.

10 P. M.—Much better; no medicine.

June 2d, 7 A. M.—No symptoms of cramp or vomiting; no medicine.

June 3d.—Much better; bowels open; no medicine.

9th.—Discharged.

Richard Tackley, private in his Majesty's 25th Light Dragoons, ætat. 25, is brought to the sick bay on board the ship Alfred, in lat. S. 20° 50' at 9 A. M. 9th July 1819, with a violent pain at his stomach, a purging, and a great inclination to vomit.

9 A. M.—R. Cal. gr. iij. Jalap. gr. xv. M. Thermometer 72.

Half past 9.—He is seized with spasms in his legs and arms, is fainty and eyes very heavy. Mitt. sang. ad. ℥xxx. R. Tinct. opii gt. c. Arrack ℥iij. M. Glyster tinct. opii gt. cc. Ap. friction of camphor and spirits, with liq. ammon. to the limbs affected.

Three quarters past 9.—The spasms return. Frictions as before. R. Tinct. opii gt. c.

10 A. M.—Feels sleepy; a vomiting seizes him. R. Tinct. opii gt. l. Arrack ℥ iij.

Quarter past 10.—Pulse quick, and cold sweats; inclinable to sleep.

Half past 10.—Goes to sleep.

Three quarters past 10.—Awakes; much thirst. R. Arrack ℥ij.

12th.—Feels much better; no spasms; much thirst. R. Cal. gr. iij. Jalap. xv. M. He goes to sleep.

2 P. M.—Wakes and feels much better.

4 P. M.—A vomiting returns, with uneasiness at his stomach. Ap. emp. lyt. part. affect. dolor.

10th, Ther. 69, 8 A. M.—Has had a good night's rest; has had no stool during the night. R. Cal. gr. iij. Jalap. gr. xv. M.

11th, Ther. 69.—No pain; is costive. R. Cal. pil. gr. v. Bowels moved.

12th, Ther. 73.—Discontinue medicine.

13th, Ther. 78.—Discharged.

PART II.

CRITICAL ANALYSIS.

I.

Medical Notes on Climate, Diseases, Hospitals, and Medical Schools, in France, Italy, and Switzerland; comprising an Inquiry into the Effects of a Residence in the South of Europe, in Cases of Pulmonary Consumption, and Illustrating the Present State of Medicine in those Countries. By JAMES CLARK, M.D. 8vo. Pp. 249. London, 1820.

THIS book must not be confounded with one bearing nearly the same title, which formed the subject of an article in our January number. Except in the title-page there is little similiarity. Much of very important matter will be found in the publication now before us; interesting both to the medical and the general reader, as well as to all those whose patients or friends may be about to be hurried away from their native homes to breathe out their expiring sighs at a distance from their relatives,—and, we may add, from their physicians also. As we entered so fully into the subject of foreign hospitals while examining Dr Carter's publication, we shall, in the present article, confine ourselves chiefly to Climate and Diseases, subjects upon which the reader will find more satisfactory notices than, from the author's unpretending preface, he could be led to expect. Marseilles, Hieres, Nice, Lausanne, and Rome, are the only places upon which Dr Clark considers himself fully authorized to deliver a decided opinion, from personal observation made during a residence of some considerable duration; and from these heads we shall endeavour to lay before our readers the most valuable matter.

There is internal evidence in Dr Clark's book that he observed with accuracy, and recorded his observations upon the spot. Some one, whose name we do not immediately recollect, has observed that notes of this description are worth "a cart-load of recollections." And a writer, whom no Scotchman can forget, and of whose ponderous style no reader can be ignorant, has thus happily explained the cause of this superiority: "He who has not made the experiment, or who is not accustomed to require rigorous accuracy from himself, will scarcely believe how much a few hours take from the certainty of knowledge and distinctness of imagery; how the succession of objects will be broken, how separate parts will be confused, and how many particular features and discriminations will be compressed and conglobated into one gross and general idea." *

Marseilles is a large and handsome city, of about 100,000 inhabitants, behind which, at the distance of some miles, rises a ridge of lofty mountains, extremely rugged and barren, forming a semicircular sweep around the town, which they encompass on all sides, except towards the north-west or to sea-ward. The roads from the town to the mountains are narrow and dusty, and inclosed by high walls, so that the invalid has no *country* about Marseilles; but the greatest annoyance is the frequency and force of the dry cold northerly winds of winter, especially of the *mistral*, or north-west, which frequently blows for several days together, and produces a great and very sudden alteration of temperature, rendered particularly sensible by the preceding heats, and which cannot be guarded against by the most cautious invalid. Dr Clark remarks upon the incorrectness of the test of the character of a climate which is furnished by the indications of the thermometer, and he illustrates the remark as follows:

"On the 24th of November, the mistral blew with considerable violence, and, to the feelings, was extremely cold; yet the thermometer, which the day before at 2 P. M. had stood at 55°, at the same hour on this day, had only sunk to 48°,—an effect on the thermometer certainly by no means equivalent to that produced on the living body. During the prevalence of this wind, which is generally accompanied with a clear cloudless atmosphere, the sun is often very powerful; and, exposed to it, in a sheltered situation, the invalid may enjoy a very high temperature; but this only makes him feel, with greater severity, the chilling blast, the moment he leaves this sort of artificial climate.

"From this account of the climate of Marseilles, we might, per-

* Journey to the Western Islands.

haps, rest satisfied as to the effects to be expected from it in pulmonary consumption; but I shall adduce evidence still more positive, and which, I think, will set at rest for ever the question of the eligibility of this place as a residence for the consumptive. In the Annual Report of the Diseases of Marseilles, read before the Royal Medical Society of that place, in 1816, by Dr Segaud the secretary, are the following remarks, which I translate from the original:—

"The natives of the country, as well as strangers coming to reside here, who have *well-formed chests*, and who live temperately, attain to a great age. The most frequent endemial diseases are Phthisis Pulmonalis, Eruptions, Scirrhus Uteri, &c. The first of these, (Phthisis Pulmonalis,) which is often hereditary, and sometimes acquired through the little care taken to avoid the causes which give rise to it, produces inconceivable ravages among the younger part of the population."

"From the same physician, who kindly gave me written answers to my different queries on the climate and diseases of Marseilles, I chiefly obtained the following additional information:—The general character of the climate of Marseilles is dry and variable, and, as we have just seen, destructive to patients affected with consumption. It is, indeed, one of the towns of France, in which this disease is the most prevalent. Females from 14 to 18 years of age are its most frequent victims. In some cases it runs its course with great rapidity; in others the patient lives six, eight, and even twelve months, and, in a small proportion of cases, lingers for years. It attacks most frequently during autumn and winter. Dr S. believes it invariably fatal. Scrofula, attacking external parts of the body, is a rare disease at Marseilles. Pleurisy and catarrh are very frequent. Cancer and cutaneous diseases are common. Diseases requiring a dry climate, and not injured by keen cold winds, may expect to derive benefit from a residence at Marseilles. In the cure of intermittent fevers I was informed it is particularly favourable; cases which, in other places, had resisted the use of every remedy, getting well here without the use of any medicine.

"The above evidence on the climate of Marseilles, I think, will be considered conclusive. The part of the town most sheltered from the mistral is the northern side of the harbour. Here, or perhaps in some of the country houses, could one be found with the ground rising to the northward of it, a consumptive patient, under *the necessity* of passing the winter at this place, would find the greatest safety. Those who can choose their climate should not be found at Marseilles after the month of October." Pp. 12—16.

Hieres is a small ill-built town, twelve miles from Toulon, and about two from the shores of the Mediterranean. Much of the adjacent grounds are marshy, and productive of remittent fever in the summer months. The town is protected from the north winds by the hills which rise behind it, but it is exposed to the winds from the east, from the west, and even from the north-

west. The adjacent country is beautiful, well cultivated, and abounds in aromatic plants, several of which bloom in December; but the dreaded *mistral* is of frequent occurrence, and the climate is more humid than that of Marseilles.

"It is true," says Dr Clark, "that about the bases of the hills, there are some spots sheltered from the blasts of the mistral, where the invalid might enjoy several hours in the open air almost every dry day; but the difficulty is to reach them at the time that they would be most useful. The chilly blast, sweeping round every exposed corner, forbids the valetudinarian venturing there, except in a close carriage; while, on the other hand, the roads leading to these places do not admit wheeled carriages. The mule with its panniers forms the only means of transport in this neighbourhood, and by these the various offices of husbandry are performed, that in most other places are done by carts or waggons.

"On referring to the journal of my residence in Hieres, I find that from the 8th to the 31st of December inclusive, there were four whole days of continued rain, and three days of partial rain; two chilly overcast days, with a north-easterly wind; and nine days, during which the wind was steadily at the north-west, accompanied with a clear dry atmosphere. The medium temperature in the shade, at 2 P. M. during this time, was 50°. A few hours on the 26th, when the weather was calm, was the only time during the above period, in which that class of consumptive invalids generally sent abroad, could have been out with advantage, or, I may even say, with safety.

"During the first seven days of January, the weather was overcast, damp, and chilly, accompanied with an easterly wind; from the 17th to the 23d, it was clear, mild, and pleasant, from there being little wind. The medium temperature in the shade at 2 P. M. was 53°. During this month, there were altogether eighteen days in which the invalid might have enjoyed several hours' exercise in the middle of the day. During the last days of this month, and the beginning of February, the weather was cold and stormy." Pp. 21—23.

Dr Clark, upon the whole, gives a decided preference to Hieres over Marseilles.

Nice was first particularly recommended as a residence for invalids, by the late Dr Smollet, in his Travels in France and Italy; but later observers have by no means confirmed his favourable reports.

A thesis, of which Dr Clark speaks very highly, and in the praise of which we willingly concur, was published at this university in 1817, by Dr Samuel Sinclair, a surgeon in the royal navy, in which the author, from the experience of several years' service with the Mediterranean fleet, deprecates the practice of sending consumptive patients to the south of France,—a climate which he asserts is particularly hostile to, and productive of,

pulmonary consumption. From the official statements produced by Dr S. it appears, that during the years 1810-11-12, there were admitted into the naval hospitals of the Mediterranean, 455 cases of phthisis pulmonalis, and 140 of pneumonia, from a force of about 30,000 men, giving a proportion of 1 in 65 phthisical cases, or 1 in 50 of pulmonic diseases generally. To the singularly variable and uncertain nature of the climate, Dr Sinclair principally attributes this extraordinary prevalence of pulmonary disease; the peculiarities of the mode of life of seamen must also doubtless have had their share. Many of the invalids recovered their health by being sent home as soon as attacked, without waiting for the formalities required on other occasions. The nature of the attack, as described by him, appears to have been of the apostematous species of Dr Duncan senior. To the evidence produced in this tract of Dr Sinclair's, Dr Clark adds some very valuable remarks from an unpublished work of Professor Foderé's, in confirmation of his opinion, that a change to the climate of Nice is *useless in any stage of the complaint*, and worse than useless in the latter stage of pulmonary consumption. The extracts are translated literally, and we here transcribe them, first giving our full assent to the professor's oral remark, "that it is a very bad practice in the English physicians, to send their consumptive patients to die at Nice."

"I come at length," he says, "to that terrible disease which carries off annually the tenth part of the inhabitants of Europe and North America—*pulmonary consumption*. Since we have shown that scrofulous affections are by no means rare among the Maritime Alps, it will naturally be expected that this other malady is also found; and accordingly I have to remark, that pectoral affections are common at Nice, Villa Franca, and along the whole coast where scrofula prevails. I have always been astonished that our older physicians should have sent their consumptive patients to our sea-shores; since it seems irrefragably proved by the experience of our time, that the climate of the shores of the Mediterranean is hurtful to such invalids. I had seen a great number of these cases terminate fatally at Marseilles, and, at that time, I considered the very dry and keen winds of that place as the principal source of evil; but I afterwards found that the warmer, softer, and more humid atmosphere of Nice, was in no respect more favourable to such complaints. Every case of hereditary tubercular phthisis proves fatal, as well at Nice as at Villa Franca, in very early age. In these places consumption is not, as in Switzerland, on the Banks of the Soane, and in Alsace, a chronic disease; on the contrary, I have very often seen it terminate in forty days. A physician of the countries just mentioned would be surprised at the quickness with which one attack of hæmoptysis

succeeds another, how readily the tubercles suppurate, and how speedily the lungs are destroyed. The English annually make fresh experience of this melancholy fact, and their burying ground in the *Croix de Marbre* too well testifies its truth.

"In considering what may be the causes of this uncommon frequency and fatality of consumption in this country, many are disposed to lay much stress on the sudden variations of its climate. But, let me ask, in what countries are not such variations found? And in what book of medicine are they not accused as the manifold source of diseases? And yet the rapid career of consumption, which we have just noticed, is very uncommon in most other countries, even in such as are cold and moist. In these, the disease, although without offering any solid hopes of a cure, gives, nevertheless, a long truce to its victims. From this it would appear that there must be on the shores of the Mediterranean some other source of evil beside mere variability of climate; and I am disposed to look for this in the impregnation of its atmosphere with some of the muriatic salts of the neighbouring ocean.

"Upon the whole, I consider it as contrary to observation and experience, to send patients affected with tubercular phthisis to the sea-coast. And yet it is singular that the practice should continue to be persisted in. If ever a cure of the disease has been obtained by such a measure, of which I much doubt, it must, I conceive, have been in cases of spurious or mucous consumptions only." In another place Professor Foderé has the following remark: "I have observed that there is a tendency in the diseases of these places to attack the organs of respiration; and this is proved, independently of the symptoms during life, by examinations after death, which prove the lungs to be much more frequently gorged with blood and indurated (hepatisés) than in other countries.

"He observes, also, that persons predisposed to phthisical complaints do not die in summer, but in the autumn, when the mornings and evenings begin to get cold, and augment the congestion of the lungs by checking the perspiration." pp. 48—50.

Lausanne lies high, but it is exposed to the "bize," a cold dry north-east wind, which is frequently felt with much severity, especially in the evenings; but by proper attention, situations may be found where the inconvenience is not seriously felt. The most favourable situations are in the low grounds, near the margin of the lake; and although the heat is frequently inconvenient there during the forenoon, yet upon the whole it is the best residence for invalids, and the most effectually sheltered from the *bize*. The best time for the arrival of the invalid in Switzerland is about the middle of June, and he should leave it towards the end of September.

The climate of Rome is the last in which we shall accompany Dr Clark.

"From what I have seen," he remarks, "of the climate of this city,

I am strongly inclined to think it a preferable situation, for the generality of consumptive patients, to those which are more generally recommended. The air has a softness that I never felt in the south of France, or at Nice; and by those who believe such an atmosphere favourable in cases of pulmonary consumption, and prefer a situation removed some distance from the sea, Rome must have the preference.

"The *Tramontana* is frequently felt at Rome with considerable severity, and during the winter the climate is, without doubt, colder than that of Nice.

"It is chiefly during the spring months, it appears to me, that Rome has the advantage in point of climate, being less liable to the keen cutting winds of the places I have already noticed. This is, however, an important circumstance, as the great difficulty is to find a good spring climate, for the consumptive patient; the cold winds, which that season is liable to, I believe over the whole of Europe, being the evil most to be dreaded. At Naples they are particularly complained of. In truth, I believe no place is exempt from them; nor must I be understood as stating Rome to be so; all I wish to be understood is, that Rome is less liable to these winds than most places I have seen.

"I met with a few cases at Rome rather favourable to the opinion I have ventured to give of it in consumptive cases. One gentleman, labouring under an affection of the lungs which rendered him very liable to attacks of inflammation in these organs, and who had several other symptoms, shewing, at least, a strong tendency to Phthisis, went to Naples during the winter with the intention of stopping there some time; but very soon after his arrival he was attacked with Hæmoptysis, and obliged to return to Rome, where he always feels comfortable.

"Another gentleman, whose mother died of an affection of the lungs, and who himself had suffered long from Hæmoptysis followed by cough, copious expectoration, &c., found much benefit during a winter's residence at Rome,—his cough, pain of chest, &c. having left him, and he gained strength. In March he went to Naples, when his symptoms soon began to return; the cough and pain of chest became troublesome, and he felt a general irritability which prevented him from sleeping. He remained a month at Naples, and then returned to Rome, where these unpleasant symptoms very soon disappeared. This case was related to me by the gentleman himself, who, from having been long an invalid, had, from necessity, paid particular attention to his symptoms, and the effects of climate upon them.

"A lady, who had lost several of her family from consumption, who was subject to occasional cough, with an increased secretion from the bronchia, at times tinged with blood, and was a good deal emaciated, got rid of all her unpleasant symptoms during her residence at Rome, and even gained strength and flesh. This lady had lost ground during the preceding winter at Nice, and was one of those I alluded to as having been attacked with Hæmoptysis in the spring.

"These few cases appear to me worthy of remark; they afford but a slender evidence, it is true, in favour of Rome, but they do afford

some, and of that kind, too, which we want most; and I doubt much, whether the whole of the climates recommended to, and frequented by, our consumptive patients, in the south of France and Italy, could bring forward as much in the same space of time.

"Should these observations ever be the means of inducing a consumptive patient to go to Rome, I must caution him to consider himself strictly as an invalid, otherwise Rome is a dangerous residence.—He must not imagine that he can enter with impunity into those amusements, from which he was prohibited at home. The houses of Rome are not well calculated for gaiety during winter; and, indeed, the same remark is generally applicable to the houses all over Italy. The staircases and lobbies are large and open, and subject to currents of air, of which invalids not unfrequently feel the effects.

"Many of the streets in Rome, too, are damp and chilly, and the alternation between these shaded streets, and situations exposed to the sun, is often very great. On this account the open carriages, so much in use at Rome, are very dangerous to the delicate, and close carriages should be alone used during the winter. Neither must the invalid pass his time among the ruins of the ancient city, nor the churches of the modern, both of which are frequently damp, and always cold, until the season is so far advanced as to make them safe for him. Ladies, in particular, visiting these churches, should be careful to protect themselves, by warm thick shoes, from the extreme coldness of the marble floors.

"In these remarks on the churches I do not include St Peter's. From the immense body of air which it contains, it is always of a mild temperature, and always safe for the invalid. On examining its temperature by the thermometer in January, I found it exactly 60°, (when the external air at 2 P. M. varied from 50° to 55°,) which I imagine is very near the medium annual temperature of Rome. It is commonly said that St Peter's is hot in winter, and cold in summer; the truth is, the temperature of St Peter's remains unchanged, and it is the variations of the external air, and of our sensations at these seasons, that give rise to the deception. During rainy weather when my patients were deprived of exercise, I not unfrequently recommended a visit to this magnificent structure, where they found both occupation for the mind, and a mild temperature to take exercise in.

"By attention to these hints, I am inclined to think the consumptive patient may pass the winter at Rome fully as well as at any other part of Italy, and perhaps better. The best residence is somewhere about the Piazza di Spagna, which is well sheltered, and has the advantage of being close to the Pincian Mount, which affords the best protected and most delightful walk at Rome. The Via Babuina is a bad situation.

"It is almost unnecessary to mention, that accommodations are good and abundant in Rome. The provisions in general are also very good; and the fountains are not more famed for their beauty, than estimable for the abundance and purity of their water, which is always from a great distance." pp. 71—76.

We cannot conclude our account of this little volume without giving our testimony to the clearness and perspicuity with which it is written, and the judgment which is displayed in separating it into parts. Of the first division we have given such an analysis as our limits would admit, and which we hope may induce both the consumptive invalid and the physician, who contemplate a removal to the southern parts of Europe, to examine the work more closely for themselves. The second part contains notes on the present state of medicine and medical practice in some of the schools and hospitals of France and Italy, into an examination of which we shall not at present enter.

II. III.

I. *The Army Medical Officer's Manual upon Active Service; or, Precepts for his Guidance in the various Situations in which he may be placed; with Observations on the Preservation of the Health of Armies upon Foreign Service.* By J. G. V. Millingen, M. D. &c. &c. 8vo, pp. 267. London, 1819.

II. *Practical Observations on the Means of Preserving the Health of Soldiers in Camp and in Quarters; with Notes on the Medical Treatment of several of the most important Diseases which were found to prevail in the British Army during the late War.* By Edward Thornhill Luscombe, M. D. &c. &c. 8vo, pp. 132. Edinburgh, 1820.

Contributions to medical science are now daily accumulating from the pens of officers who accompanied our armies during the late campaigns; and although the works before us are more peculiarly interesting to that class of practitioners, much important matter will be found in them, worthy the perusal of the members of the profession at large. To the philosopher these, and similar works of recent date, furnish much matter for serious contemplation, and for congratulation also,—for they prove, that, if war has its curses, it is not altogether unproductive of benefits. The time was when our fleets and our armies went forth to battle with a most scanty provision

against accident or disease. "I remember," says Gale, "when I was in the wars at Muttrel, in the time of that most famous prince, King Henry VIII., there was a great rabblement there that took upon them to be surgeons. Some were sow-gelders, and some horse-gelders, with tinkers and cobblers. This noble sect did such great cures, that they got themselves a perpetual name; for, like as Thessalus's sect were called Thessalians, so were this noble rabblement for their cures called dog-leeches; for, in two dressings, they did commonly make their cures whole and sound for ever, so that they neither felt heat, nor cold, nor no manner of pain after." Even in our own days, a cannonball was pronounced by Suwarrow to be the "sovereignest thing on earth" for all sorts of military accidents; and we doubt not that it was in many cases a much more humane mode of treatment than that which emanated from the specious but absurd attempt of the Prussian monarch, to model the laws of nature by military authority, and to regulate the operations of the surgeons of his army by an order of the day. To the military officer these works will be found of importance, particularly to those in whose department lies the planning of expeditions, and in whom it is not only necessary to order "physic enough for forty thousand men," but also

> ——— "fit they know
> Something about the place to which they go."

Both Dr Millingen and Dr Luscombe write from extensive experience. The former officer states, that he was present at twelve general engagements, and fourteen partial actions, during the period of upwards of eighteen years, in which he had served at the date of his publication; and Dr Luscombe had served sixteen years, when he took out his degree at this University, and published the Thesis, of which his present work may be considered as an amplification.

There is great good sense displayed in the following passage from Dr Millingen's book; and the suggestions contained in it are well worthy the attention of all medical travellers, whether in military or civil life.

"No time should be lost on the arrival of an army in a foreign country, more particularly when intended for extensive operations, in assembling a board of health, presided by the inspector-general; in which the following points will be investigated, and official and detailed reports thereon, subsequently submitted to the commander-in-chief.

"1*st*. What are the usual epidemic, endemic, and sporadic diseases of the country? at what period of the year making their appearance? whether general, or only prevailing in particular districts?

"2*d*. If general, in what season? under the prevalence of what wind? in what situations?

"3*d*. Provincial, where? what are the supposed causes? on the banks of what river? in the vicinity of what lake, morass, wood, &c.? under the use of what particular diet or article of food? the medical topography of the district to be minutely ascertained.

"4*th*. What is the most approved practice of the native medical men? and what are the prophylactic means generally resorted to by the inhabitants?

"5*th*. What is the nature of the water of the several rivers?

"6*th*. What are the principal mineral springs and thermal waters? obtaining if possible their analysis.

"7*th*. What are the most approved works upon the medical topography, and the diseases of the country, as well as on its natural productions?

"8*th*. What are the prevalent winds at the different periods of the year? and what is the mean temperature of the different provinces during the various seasons?

"9*th*. What is the habitual diet and mode of living of the inhabitants? in the middling and labouring classes more particularly—inquiring into the diversity of provincial customs, which can generally be traced to prophylactic motives.

"10*th*. What are the indigenous alimentary, medicinal, and poisonous productions?

"11*th*. What are the condiments most commonly made use of?

"12*th*. What are the means usually resorted to by venders of wine, spirits, beer, &c. to adulterate these articles, and what are the most effectual and ready tests for detecting the fraud?

"13*th*. What are the principal diseases of cattle?

"14*th*. What are the venomous reptiles and insects, and what are the popular means employed to counteract their bite or sting?

"15*th*. Of what description are the means of transport in the several districts, whether by land or water carriage?

"16*th*. By land; of what kinds the waggons, carts, &c. or bat animals—of what description the roads? By water; of what size the boats, whether open or decked, and how far navigable the rivers, lakes, or canals?

"17*th*. The adopted codex or pharmacopœia of the country should be examined, that the different preparations found in apothecaries' shops may be known, and the weights and measures reduced to the British scale.

"18*th*. What are the names of the most distinguished medical practitioners in each province and principal town?

"19*th*. What are the principal public hospitals and infirmaries in the several cities, towns, and districts, whether supported by the nation, or by private endowments?

"20*th*. What are the principal monasteries, seminaries, colleges, &c. in the several districts, and which of them belong to the wealthiest orders?

"21*st*. What are the principal palaces, country seats, and manufactures, in the neighbourhood of the cities and towns lying in the probable theatre of war?

"22*d*. How is the country supplied with salt? where abundant, and where scarce? whether sea salt or rock salt?" pp. 52—55.

Dr Millingen, like every other well-informed medical officer, approves of the smaller regimental, rather than of the larger general hospitals, "those sinks of human life," as they have been appropriately designated by Dr Rush. And he takes occasion to mention, that to Mr Knight, the late Inspector-General of Regimental Hospitals, the nation is principally indebted for the organization and efficiency of these most important establishments, which not only afford comfort to the sick soldiers, but preserve many thousands in the ranks upon active service.

There is a considerable degree of knowledge of human character displayed in a note at p. 182.

"I cannot refrain from giving it as my opinion, that medical officers should, as seldom as possible, bring men to punishment or confine them: although it is true, that it is their duty to assist in maintaining discipline, yet they are not the active instruments of its preservation out of hospital; a medical officer who aims at the character of a *Martinet*, not only loses the confidence and affection of the men, but becomes an object of ridicule to the officers."

This robbery of the provost and the drill-serjeant of their privileges, reminds us of an anecdote, told, we believe, of some Prussian Æsculapius, who had the most necessary utensils piled, in various military figures, throughout the wards of his hospital, but, like the guinea in the possession of the worthy Vicar of Wakefield's daughters, "with strict injunctions never to use them."

Dr Millingen has adopted a plan at the end of his work, which we wish to see generally followed, and of which we have expressed a favourable opinion, on more occasions than one, in this Journal, viz. giving a bibliographical list of the principal writers who have treated on the subject of his work. This directs the attention to the most important books, and often enables a physician to pick up, at a small rate, both at home and in foreign countries, works connected with his profession, which he would otherwise never have thought of, but, from a perusal of which, great information may be occasionally derived. We have observed, in Dr Millingen's catalogue, a few tracts, which possibly never have gone beyond the shelves of our own, or some foreign University, having been published as Inaugural Dissertations; still, however, it is proper to include them along with others more generally accessible. The printer, by the

substitution of a letter, occasioned us no small share of trouble in looking over our catalogues, having, by his error, nearly converted an Italian professor into a British bumpkin. In the next edition this should be corrected, and "Maggins" should be read "Maggius." There are a few other misnomers; these, however, are very trivial errors, and are amply compensated by the important information to be found in almost every page of the body of the work.

Dr Luscombe's work, though short, contains a great deal of information, and, by the mode in which it is drawn up, is equally adapted for medical and non-professional readers; the medical matter being thrown in, in the form of notes.

His practice in Intermittents and Remittents was extensive.

"Nearly 500 cases of intermittents fell under my care in the Island of Jersey, and in the Province of the Alentejo in Portugal; and in the treatment of this disease, I have always found it necessary to premise free evacuations by *emetics*, and brisk *purgatives*, such as calomel, and the compound extract of colocynth, previous to the administration of the bark.

"After the necessary evacuations had been premised, it was my endeavour to break the chain of morbid associations by administering a full dose of tincture of opium, and sulphuric æther, on the first appearance of the rigors, which denoted the approach of a paroxysm, or by giving an ounce of bark in powder, (in as large doses as the stomach could bear,) within a short period of an expected paroxysm; which by these means was frequently prevented, and when the morbid associations had been thus once broken, the prevention of the succeeding paroxysm was rendered considerably more easy by means of the repetition of the bark, the use of which I found it necessary to continue for some time after the paroxysms had ceased.

"The arsenical solution has also proved a very efficient remedy in my hands, but I have always found the sulphate of zinc nearly or quite inert; and, on the whole, I give the preference to the bark administered in as large doses as the stomach will retain, shortly before the paroxysm is expected, and continued for a considerable time after the paroxysms have altogether ceased to occur.

"In the Alentejo, however, many cases occurred in which the disease could not be cured, so long as the patient remained in the district in which it had been contracted; removal to a more healthy situation, therefore, became necessary, and when visceral disease was threatened as a sequela of intermittent fever, a mild course of mercury was the only remedy to be relied on, together with change of climate." pp. 13, 14.

The symptoms of the Endemic Remittent Fever he usually found to be

"a very severe pain in the head, often accompanied with nausea; the temperature of the body considerably increased; the pulse fre-

quent and full; the thirst extremely urgent; and the tongue covered with a whitish crust of mucus.

"Greatly increased secretion of bile was evident from the very large quantities passed by stool; and I have seen several cases in which the whole body of the patient became of a dark yellow colour,—and the urine and serum from blisters, in those cases, tinged the linen as dark yellow as saffron could have done.

"Great disturbance of the functions of the sensorium took place; and, as the autumn advanced, irritability of the stomach became the most dangerous and distressing symptom.

"Extreme debility occurred at the termination of the disease, even in cases where it had been of very short duration.

Two hundred of the 34th regiment were attacked with endemic fever during the summer and autumn of 1811; but although the disease frequently assumed the continued form, it did not, in any case, appear to me to be contagious.

"In my treatment of this disease, I had recourse, early in the season, to emetics, in the first instance, and these were commonly composed of the tartrate of antimony, by means of which great quantities of bile, altered from its healthy appearance, were evacuated in most cases; but as the autumn advanced, the determination of blood to the head, and great irritability of the stomach, contraindicated the use of emetics.

"Active purgatives were had recourse to *in all cases*, and the most decidedly beneficial effects were produced by their operation. I commenced with calomel and the compound extract of colocynth, six grains of each,—and if this did not purge freely in the course of a few hours, it was followed by the supertartrate of potass and jalap; or by infusion of senna with sulphate of magnesia, until free evacuations ensued. When great irritability of the stomach existed, pills, composed of calomel and the compound extract of colocynth, were the only purgative medicine which would remain on the stomach; and it was often necessary to give the saline draught in a state of effervescence to allay that distressing symptom, so as to allow any thing to remain on the stomach; but purging alone afforded permanent relief, and it was by purgatives given in sufficient doses to operate with activity, and repeated with unwearied assiduity, that the disease was conducted to a favourable termination.

"In cases in which the head was much affected, leeches were applied in considerable numbers to the temples; and where those were not at hand, it was certainly expedient that blood should be abstracted from the temporal artery, or external jugular vein: but, in the Peninsula, we had almost always leeches in great abundance.

"Antimonials, combined with calomel, the neutral salts, and the most abstemious regimen, completed my usual plan of treatment, to which camphor, combined with the liquor acetatis ammoniæ, and blisters, were sometimes added in lingering cases; but my principal reliance was on brisk and repeated purging, and local abstraction of blood from the head.

"Bark was administered for the removal of the extreme debility which invariably occurred at the termination of the disease: and we generally had it in our power to obtain moderately good wine from the commissary for our convalescents." Pp. 20—24.

Of the utility of Gestation after Typhus, he speaks as follows:

"In many cases, great debility remained at the termination of the disease, so much so, that although the fever appeared to have finished its course, still the system did not possess sufficient energy to resume its healthy functions; in these cases, very great advantage was derived from *gestation*, as recommended by Dr Jackson; the men, when in the state above described, were taken out into a spring waggon, and laid on a mattress; and if in a state of extreme debility, attended by a medical officer, with a supply of wine and cordials, and conveyed four or five miles into the country, usually over Barham Downs, and they were almost always found to revive during their excursion; broth was prepared for them on their return, which they usually took with appetite, and soon after enjoyed sound sleep, from which they awoke greatly refreshed and invigorated." pp. 36, 37.

Dr Luscombe bears testimony to the utility of blood-letting in Dysentery, to which he had recourse in all cases where tenderness was experienced in the abdomen, on moderate pressure by the hand, which he justly considers to be the criterion by which we are to have recourse to the abstraction of blood in recent cases of that disease. Opium he considers as highly deleterious in all cases of *acute* dysentery, but in the *chronic* disease a starch glyster, not exceeding four or six ounces, and containing two drachms tincture of opium, thrown up two or three times in twenty-four hours, he mentions as very useful in relieving the distressing tenesmus, and this is the only form in which he does not consider opium as decidedly injurious. Of the contagious nature of the disease he entertains great doubts.

Dr Luscombe is a moderate mercurialist in the treatment of Syphilis. In the treatment of the secondary form, he gives the preference to the oxymuriate administered in solution, and in small doses, together with which he often prescribes the compound decoction of sarsaparilla.

Our limits do not admit of our following Dr Luscombe through the remainder of his book, but what we have already extracted from it, will serve to show that we entertain a high opinion of him as a medical practitioner. The following extract will, we think, prove him to be an amiable man: it is to be found under the head Religious Instruction:

"It may, I hope, be asked without impropriety, why it is, that our soldiers, who have devoted their lives to the service of their

country, should be deprived of a religious instructor and friend, which is secured to every other class of our community? And it also might be asked, if dangerous consequences to the state might not ensue, at some future period, from the prevalence of fanatical opinions among our soldiery, to the introduction of which, when employed on the home station, they have been found to be very much exposed, from not having any authorized person among them to whom they could look up for attention and well-grounded religious instruction." p. 121.

The morality of soldiers is certainly not within our sphere, but we would venture to ask, whether paying them their balances *weekly*, might not tend to diminish the disgraceful scenes of drunkenness, and the consequent sickness, which invariably mark the monthly periods when they receive their pay? Dr Luscombe proposes to diminish the monthly balance, by providing them with superior articles of equipment, or giving them a moderate daily allowance of porter or ale. Perhaps it might be better, while their equipment is not lost sight of, to let them have a small weekly sum for pocket money. They are thus left to their own free will, and there need be little fear of this sum being allowed to accumulate, so as to admit of an extravagant debauch; for we are satisfied that few private soldiers are to be found devoid of what Johnson calls the "true military impatience of coin."

IV.

Lectures on the Blood, and on the Anatomy, Physiology, and Surgical Pathology of the Vascular System of the Human Body, delivered before the Royal College of Surgeons of London, in the Summer of the Year 1819. By James Wilson, F. R. S. &c. 8vo, pp. 429. London, 1819.

The name of the author of this volume is a sufficient recommendation. Mr Wilson has been long esteemed as one of the best teachers, and one of the most amiable men in the profession. But even had the volume appeared without such a name to recommend it, the mass of solid instruction which it contains, and the clear and unpretending style in which it is

written, would have soon ranked its author with the best didactic professional writers.

In these days, when the mania of novelty and discovery misleads so many ambitious spirits into paradox and absurdity, it is truly gratifying to find a man of acknowledged talents and extensive experience come forward, and manfully state the proper province of a systematic teacher. The address "to the reader" is so consonant to our own opinion, that we quote with pleasure the greater part of it.

"As novelty forms but a small part of the contents of this volume, some reason should be given for its publication. I was called upon rather suddenly, and certainly unexpectedly, to deliver the Anatomical and Surgical Lectures at the College; my respect for the opinion of the members of the Court of Assistants, who did me the honour of naming me to that office, rendered it impossible for me to refuse attempting the duties of it; but, at the same time, I felt that the avocations connected with my professional business would not allow me to devote so much time as I could have wished, to search for matter which might render the Physiological Discourses I had to deliver acceptable from their novelty, and in Anatomy and Surgery, I could have no matter but that which I had long taught and continue to teach in the Windmill Street School. I have never considered that the exertions of the Lecturer should be confined to attempts at displaying new facts and new reasonings; he would thus be continually obtruding on his hearers an ill-arranged assortment of crude materials, and would be exposing himself and them to the specious imposture of old matter, wearing the disguise of novelty, or would neglect the instructive observations by which such facts as are really new and intrinsically valuable had been established. The previous range of the intellect should surely be defined before attempts are made to extend its limits, and the memory should be refreshed before the imagination is exercised.

"Thus I have endeavoured to bring forward to observation such materials only as appeared to be useful, rather than new matter, and have attempted nothing beyond plain facts, and I hope intelligible reasoning on them. Had I not thought that such Lectures as I conceived worthy to be listened to by the College of Surgeons in London, might prove useful elsewhere, I never should have published them." pp. v—vii.

The Lectures of Mr Wilson are fifteen in number. Of these, seven treat of the vascular system, under which he comprehends the blood, muscular fibres, as entering into the composition of the heart and blood-vessels, the heart, arteries, veins, and absorbents. The other eight are surgical. The former series is given upon the old foundation of Arris and Gale, and the latter constitute the Museum Lectures on Surgery. It was to be ex-

pected that lectures given in the metropolis, by a pupil of William Hunter, and illustrated by John Hunter's collection, should bring forward, in a prominent manner, the opinions of these illustrious brothers; and we cannot sufficiently admire the good taste with which all notice of the disputed points of discovery have been avoided, by ascribing to them tacitly every thing to which, in the judgment of the author, they were entitled. We shall follow his good example.

We have now only to inform our readers of the contents of this volume, and to recommend it, as containing the greatest sum of information upon most of the subjects of which it treats, and arranged in the best manner.

The first lecture treats of the blood and its properties in the living body; and here we find a very candid and perspicuous view of Mr Hunter's doctrine of the vitality of the blood,—a doctrine which has been much misunderstood and misrepresented.

The second lecture details the properties of the blood when out of the circulation. The third lecture is on the muscular fibre; the fourth and fifth explain the anatomy and physiology of the heart. The sixth is on the arteries, and the seventh on the veins and the absorbents.

The second series of lectures are introduced by some very judicious remarks on surgery, from which we select the following fragments:

"Nothing imposes more on the mind than the acquirement of popularity. The performance of any great or uncommon surgical operation, makes a stronger impression on mankind from the feelings it excites, consequently is more talked of, and wondered at, than the most unexpected cures, unaccompanied by an operation, but effected entirely by the persevering attention and skill of the surgeon. Led away by the astonishment and eclat which the success of such an operation occasions when dexterously and quickly performed, some surgeons have thought that the art of operating was the most essential part of their profession, and have devoted the whole of their attention to it; forgetting that the operation, however perfectly performed, is only one point gained in curing the patient; that the complete knowledge of the case, the accidents which may happen, and the treatment which must be varied according to these accidents, are all equally essential." pp. 218, 219.

"An almost exclusive attention to operations is witnessed in the conduct of some students while attending the hospitals, and marked by the avidity with which they crowd to see them performed, when possibly they may not have inquired into the previous treatment of the diseases, and remain unacquainted with the particular circumstances which rendered the operations advisable.

"Let it not, however, be inferred from the above observations, that I wish, in the smallest degree, to lessen the necessary attention which every surgeon should pay to the operative part of his profession. No operation, however trifling, and unattended with danger, can be performed without some pain, and a certain degree of dread on the part of the patient; and cases do frequently occur, where very painful and dangerous operations must be performed to preserve life, or to prevent existence being dragged on in misery for years. Every thing which can lessen the suffering and encourage the mind of the patient, should carefully be attended to. It is therefore the indispensable duty of the surgeon to take every opportunity of perfecting himself in this, which is so marked a part of his profession." pp. 219, 220.

"As surgery then consists of something more than the knowledge of external applications or performance of operations, as it consists in the knowledge of the principles of disease, and as the principles of external and internal diseases are exactly similar, each of them having the same causes, indications, and frequently the same terminations, it is obvious, that the knowledge which will enable a man to practise physic with success, is equally necessary to form a good surgeon. From the difference in situation, we are enabled to try modes of cure in external diseases, which we are prevented from doing in internal. In the one, the disease is perceptible to the sight, consequently its extent and nature is easier to be ascertained, and sometimes, when judged necessary, it is capable of being extirpated; in the other, it can be known only by its symptoms, and treated only by the exhibition of medicines: the difference in practice arises entirely from the difference of situation; but the knowledge of the principles of the disease is equally necessary in both.

"The connection between external and internal diseases is indeed so inseparable, that there is no part of the knowledge of a physician, which would not prove useful to a surgeon, and every physician must find himself materially benefited by an extensive knowledge of the theory and practice of Surgery.

"This connection renders it almost impossible to ascertain exactly the boundaries of the two professions, for cases do occur which appear to belong equally to the one as to the other. Celsus was aware of this, for he says, 'Omnes medicinæ partes ita connexæ sunt, ut ex toto separari non possunt.'" pp. 221, 222.

The rest of this introductory lecture is upon diseases generally, and on symptoms. The ninth lecture treats of inflammation; the tenth of union by the first intention, and of suppuration; the eleventh of ulceration, granulation, cicatrization, and mortification; the twelfth of the treatment of inflammation; the thirteenth of hæmorrhage; and the fourteenth and fifteenth of aneurism and the diseases of the veins.

V.

Principles of Military Surgery; comprising Observations on the Arrangement, Police, and Practice of Hospitals; and on the History, Treatment, and Anomalies of Variola and Syphilis: illustrated with Cases, Dissections, and Engravings. By JOHN HENNEN, M. D. F. R. S. E. Deputy-Inspector of Military Hospitals. Second edition, with numerous Additions. 8vo, Edinburgh, 1820. pp. 580. *with Six Plates.*

THIS work, although appearing under a new, and, as we think, equally appropriate title, is considered by its author as only a second edition of his former work on Military Surgery, of which we had occasion to express a very favourable opinion in the 14th volume of this Journal.

Considering the numerous publications which are every day issuing from the press, upon subjects strictly and legitimately within the provision of a Medical Review, we are in general under the necessity of precluding from our pages any mention of the subsequent editions of works of which we have previously noticed the first impressions. In departing from our established practice on the present occasion, we trust, that the importance of the subject treated of in those additional chapters which Dr Hennen has given in the present work, will sufficiently justify us; and to these chapters we propose chiefly to confine our remarks, premising, that much additional matter has also been introduced upon those subjects which were treated of in the first impression of this work.

In Chapter XX. page 449, Dr Hennen treats of miscellaneous points connected with military surgery—of the examination of recruits—of the detection of feigned diseases—and of the proper objects of attention in drawing up topographical reports—which are now called for from every military surgeon on a change of station.

The examination of recruits forms a most important part of the duty of a military surgeon; and, as a regulation has been lately introduced, by which the surgeons intermediately approving them are burdened with the expences of recruits who may be finally rejected at the head-quarters of their regiments, it becomes medical officers to be very circumspect in their conduct upon this point. Our military brethren must feel indebted to

Dr Hennen for his hints on the subject, and would do well to adopt the systematic mode of proceeding which he recommends in examining recruits, and which, to our own knowledge, is far from being universally adhered to. In time of war, when there is often a sudden and urgent demand for increasing the army, and when every allurement is held out to induce volunteers to enter it, surgeons may perhaps allow themselves to overlook some of those minor blemishes, which are at present considered sufficient causes of rejection; but in time of peace, we conceive that too much pains cannot be taken to prevent the admission into the service of a puny and inefficient description of men, and to form an effective and well-disciplined stock, upon which future levies may be speedily ingrafted in case of emergency. With this view, it might not perhaps be ineligible to raise the present standard both as to age and size. At present, we should take none but men of the best description; and when lawless necessity compels us, we must take such as we can find.

On the subject of feigned diseases, we have long wished to see something which could assist us in deciding upon many perplexing cases, which, although perhaps more familiar to military surgeons, are far from being unknown in some of our civil establishments, where the cunning and worthless impostor, attracted by the prospect of food and shelter, is sometimes admitted, to the exclusion of a more needy and deserving object. Dr Hennen, in his observations upon this subject, has given some interesting details of the ingenious impostures practised by different individuals, and of the equally ingenious devices employed for their detection. At page 485, he details at some length a singular case of somnolency, accompanied with mental hallucination, originating apparently from fear, in the person of a soldier who had been destined to serve in a corps stationed on the coast of Africa, and who was treated for some time in the Military Hospital at Hilsea, under the superintendence of our author and Dr Knox. In concluding his remarks on this case, he observes, with a feeling which does him credit,

"Whatever doubts may arise as to the existence of a systematic attempt at simulation, in this and other cases, that humane principle should never be forgotten, which leads us to consider, that the escape of many guilty is a much less evil than the unjust punishment of an innocent individual." p. 464.

At page 466 we have an account, by Dr Cumin of Glasgow, of a remarkable case of increased action of the heart, produced at will, somewhat analogous to the case of the Honourable Colonel Townsend, related in Cheyne's English Malady. The limits which Dr Hennen has assigned to this chapter, are ob-

viously insufficient to do full justice to the subject of feigned diseases; but so far as he has gone, we consider practitioners in general, but more especially those connected with hospitals, both civil and military, under obligations to him for many useful hints.

The heads of inquiry upon Medical Topography will, we think, be found of essential service in guiding the researches of the junior members of the army medical department, and of such as are not habituated to this species of investigation. Dr Hennen divides these inquiries into three different classes or sections,—the station, the barracks, and the hospital,—and under each of these heads are remarks upon the most useful and necessary points to be adverted to. A series of reports drawn up in this way will afford a mass of very important information; and there are many points connected with these inquiries, in which practitioners in civil life, in various parts of the kingdom, are greatly interested; although they probably would never have been undertaken upon so general and extensive a scale, but for the enlarged and liberal views of the present Director-General of the medical department of the army.

Chapter XXI. is devoted to the consideration of Variola and Vaccination, and consists chiefly of a connected and abridged statement of our author's observations on these subjects, which have already been communicated to the public through the medium of this Journal. In our review of Dr Thomson's work, in our last number, we entered so fully into the subject of vaccination, that we feel averse to impose, either upon our readers or ourselves, any farther consideration of it at present, and shall therefore proceed to the last chapter of Dr Hennen's work, which treats of Syphilis.

In the introductory part of this chapter, our author adverts to the peculiar opportunities which the army surgeons have at all times enjoyed of making themselves masters of the treatment of syphilis; and observes,

"The opportunities which military hospitals afford for extensive observations and comparisons, are highly favourable to the elucidation of the natural history of this disease, so that it is really a greater object of surprise that more light has not been thrown upon the subject by the officers of these establishments, especially considering that no interested views could have interfered, than that they should at length have fallen into the fair and philosophic course of investigation. Nothing can fully account for this except the undoubting reliance that has been placed,—justly in many instances,—on the sanative powers of mercury." pp. 488, 489.

He afterwards enumerates the observations of different au-

thors, chiefly medical men connected with the army, and dwells at some length upon the use of corrosive sublimate, as introduced into the military hospital at Vienna, by Baron Van Swieten, by which, says our author, "he has rendered a most important service to physic."

"He was aware of the injuries so often inflicted by salivation, and he introduced the alterative cure by the oxymuriate of mercury into general notice. Nothing could exceed the violence of the opposition to this plan; it was very generally decried, and by many it was pronounced a monstrous, inhuman, and unjustifiable measure. Van Swieten, who held the highest medical station at Vienna, and had the control of the military medical department, sent 300 soldiers to the hospital at Saint Mark, in order to institute upon them an experiment on a large scale as to the power of his new remedy. The results of this measure are sufficiently interesting, and strongly illustrate the difficulty of introducing any innovation in the treatment of the venereal disease. With the exception of six who were affected with incurable caries of the bones previous to their admission, *every one of these individuals went out of hospital cured.* In a little time afterwards, an accusation was brought before one of the highest military tribunals, in which Locher, the physician of the hospital, was charged with dismissing from that establishment 300 soldiers, not only uncured, but even in a far worse condition than when they entered it. Fortunately the records of the hospital were in existence, but what was still more convincing, all the soldiers were at the very time within the walls of Vienna. "The physician," says Van Swieten, "insisted on a strict examination of the matter by law, nor did I neglect doing it. The delays of the law were spun out under various pretexts, and the calumniator, in the mean time, ran away, died, and escaped his deserts Locher afterwards quietly continued the cure of the venereal disease in his usual manner." pp. 491, 492.

At page 495 Dr Hennen observes,

"Previous to inquiry into the effects of some of the numerous remedies employed in the cure of syphilis, it is proper to direct our attention to the opinions of those who hold that it has undergone great changes in its nature since the end of the fifteenth century. It may be that such an alteration has been produced in it either from the effects of remedies, or by natural causes, as seriously to influence the results of our treatment at the present day. The analogy of leprosy and of scurvy, which at one time raged throughout Europe, but are now almost unknown, is strongly in favour of the supposition of a change of character in syphilis; we have also direct testimony which shows that its symptoms have become milder and more tractable.

"No author is better entitled to speak on the disease than the well known German Ulrich de Hutten, if personal suffering can confer such a melancholy distinction. After having suffered for nine years under it, and we may naturally suppose studied its history mi-

nutely, he tells us in his work published in 1519, that for the first seven years after its appearance in Germany, it raged with the utmost violence, but that when he wrote, its virulence had considerably abated. In 1563, upwards of forty years afterwards, Bernardinus Tomitanus of Padua, after noting some changes of symptoms which had taken place in the disease since its first appearance in Europe, bears strong testimony to its increasing mildness at the time he wrote. All the pleasures of social life, he says, had been poisoned on the breaking out of the Morbus Gallicus; in his time, however, men were less terrified, and no longer abstained from convivial intercourse with those affected; they began also to contract marriages without their former fears, and their inquiries were now influenced more by the amount of the dower they expected, than by the fear of pox. He then goes on to predict, that, in a short time, the disease would no longer be communicable by coition, as it had become old, and was hastening to decay.

"The learned and indefatigable Astruc has collected the authorities of various physicians and historians to the same effect, including a period from 1546 down to 1711, to which he adds his own testimony, dated 1735. In it he says, "I have, by careful and repeated observation, found the venereal disease daily to grow milder; it may perhaps be more frequently contracted than formerly, yet its rage is less violent, its symptoms are not so many, so painful, nor so difficult to be cured; it yields more readily to remedies properly applied, and, in a word, seems by little and little to approach towards its close." pp. 495—497.

Upon this supposition of changes in the nature and characters of the disease, at different periods of its history, is probably to be explained the transient reputation of many substances which have been renowned for the cure of syphilis, and also many of the injurious effects which have followed the protracted and unavailing use of mercury in different cases. To these points our author next adverts, and, after enumerating a formidable catalogue of diseases, which are said to be evolved or aggravated by the use of mercury, he says,

"While I have thus enumerated many of the ill effects produced by mercury when it acts as a poison, I must give my strongest testimony to the admirable results which proceed from its judicious use in persons not constitutionally disposed to be injured by it, and who do not lead profligate lives, or are not exposed to the foul air of hospitals fully saturated with its fumes. In common with other physicians, I have, however, frequently observed that mercury, like many other substances with which we are familiarly acquainted, frequently mitigates in small doses, but without effectually removing, many of the symptoms which it has occasioned when very largely used, a property which has often led to serious mistakes, and which must detract considerably from the value of any examples drawn from the

cases of those whose constitutions have been constantly charged with the mineral, when such cases are brought forward as unquestionable proofs of its efficacy, where syphilis has resisted every other means of cure. I would by no means, however, be understood to assert, that many cases have not yielded to mercury, which had previously resisted every other medicine. Of its unquestionable efficacy there can be no doubt; but its indiscriminate employment in every case, whether old or recent, suspicious or confirmed, and without any view to the patient's diet, or his general health, has produced the most dreadful consequences. To reduce its employment within the limits where it can be salutary only, without creating or evolving other diseases, is the best means of supporting the reputation of the medicine. Where Hunter and Abernethy, Pearson and Carmichael, have hesitated, we surely may be permitted to pause. These eminent men greatly contributed to the elucidation of the circumstances under which mercury was improper; their precepts and their example have reduced the quantity formerly given to comparatively moderate bounds; but it remained for the inquiry which is at present prosecuting in the military hospitals, to show, that even these bounds are too extensive, and that the practitioner has, in a vast number of instances, the option whether to defer its use, to limit it, or to omit it altogether. Settled as it now is, beyond a doubt, that syphilis does not run on uninterruptedly to a fatal event if not checked by mercury, that practitioner cannot be admitted to do full justice to his patient, who does not avail himself of the fact;—to his own judgment must be left the extent to which he may be pleased to do so." pp. 512, 513.

Dr Hennen then directs the attention of his reader to the more recent experience of the army medical department in the treatment of syphilis without mercury, supporting his observation by various tabular views of the results of different modes of practice, and premising that,

"In the practical remarks which I am now about to make, I propose to embody the whole of the information that I have been able to collect in the various military hospitals under my superintendence for the last four years, as well as from the latest official documents which have been promulgated to the army by the Medical Board, and of which, by the liberality of Sir James M'Grigor, I am permitted to avail myself. But before I enter upon this subject, in order to avoid all possibility of misconception or misrepresentation, I feel it incumbent upon me again clearly and distinctly to avow, that I entertain no doubt of the utility of mercury, when properly employed as an auxiliary in the treatment of venereal complaints, especially when they become chronic; but while I admit this, I am equally confident that the disease, like many other diseases, is susceptible of a spontaneous cure in many cases; that in many others it is curable without the employment of mercury, either externally or internally; and that where mercury is employed, the doses may be greatly

diminished from what was lately supposed necessary, and that its effects may be always limited to a moderate irritation of the gums, so as that the poisonous effects of the remedy may be as much as possible avoided. Having premised thus much, it is also necessary that I should say, that, convinced though I am of the possibility and facility of the non-mercurial cure, I am by no means authorized from my experience to assume, that its *eligibility*, in *every* case, or under *all* circumstances, is yet established. How far the observations I have to offer may tend towards this end, it will be for the reader to judge, and for further experience to determine. All theories, or preconceived opinions on the subject formed in the closet, and promulgated by *talking* physicians and philosophers, if unsupported by actual experiment, I look upon as perfectly worthless. No man could have been more firmly convinced than I was, five years ago, of the extravagance of supposing that this disease could, under any circumstances, be cured without mercury, (to which alone I had trusted in at least a thousand cases,) until conviction was forced upon me by repeated observation, confirmed by an attentive consideration of the testimonies of the best-informed practical writers of past times, and the opinions, both oral and written, of those of the present, whose opportunities have been such as to entitle their opinions to any weight on a practical subject.

"It is painful to confess that we are not in possession of the knowledge of any invariable characteristic symptoms, by which to discriminate the real nature of the primary sore, and we are equally at a loss in many of the secondary symptoms. I am well aware that some practitioners have assumed to themselves the possession of a "tactus eruditus," by which they can at once distinguish a chancre, or a venereal ulcer or eruption, in which mercury is indispensable, from one of a different nature, but I have seen too many instances of self-deception to give them all the credit that they lay claim to. It would be by no means difficult to show that the high round edge,—the scooped or excavated sore,—the preceding pimple,—the loss of substance,—the hardened base and edge, whether circumscribed or diffused, and the tenaciously adhesive discharge of a very fetid odour, are all observable in certain states and varieties of sores unconnected with a venereal origin. The hardened edge, and base, particularly, can be produced artificially by the application of escharotics to the glans or penis of a sound person, and if any ulceration, or warty excrescence, previously exists on these parts, this effect is still more easily produced." pp. 516, 517.

In this part of the work our author introduces a copy of a circular letter from the heads of the army medical department, containing in a very concentrated form a mass of well-digested information, but for this we must refer to the work itself. In noticing the objection to the non-mercurial practice from the possibility of the disease being conveyed to the offspring of a parent imperfectly cured, Dr H. thus expresses himself:

"A fresh objection has recently been started to the non-mercurial practice in Syphilis, by Dr Hamilton junior, Professor of Midwifery in the University of Edinburgh, in his work on the "Uses and Abuses of Mercurial Medicines." He conceives that very alarming consequences are likely to arise to children yet unborn from the practice of the army surgeons. But while I most willingly acknowledge the high character, acutenes, and zeal of my former teacher, I cannot admit the validity of the arguments he adduces to prove the truth of his opinion, which appears to me to be chiefly founded on the assumption that a point of pathology is perfectly settled, which still remains not only dubious in all its relations, but which is actually denied by very high authorities.

"It must be recollected that there are various opinions on the subject of the venereal disease of the fœtus in utero: they are as follows: 1st, It is contended that the *mother*, not the father, communicates the disease to the fœtus. 2d, That it is the *father*, not the mother. 3d, That the child can be diseased by both parties. And 4th, Mr John Hunter denies the possibility of the fœtus in utero being affected by either.

"I am well aware of the difficulty of forming a judgment on these points, and of the great delicacy necessary to be observed in investigating them; but it becomes an important duty for every professional man to throw what light he can upon the subject, and under this impression I shall first state my speculative opinions, and then I shall detail such facts as I have been able to collect. Unless a man has primary symptoms himself, I apprehend it is physically impossible for him to communicate primary symptoms to a female. Unless a female has primary symptoms, I hold it equally impossible for her to have secondary symptoms; and except she has secondary symptoms, she, I apprehend, cannot communicate them to the children in her womb; she may, indeed, as we all know, communicate primary sores to the fœtus in its passage through her vagina. With regard to the facts to be met with in authors, many instances are on record, and within our daily view, where women having secondary symptoms bring forth healthy children; and many, where fathers, who have long had secondary symptoms, beget a perfectly sound offspring. That children are born with a disease, *supposed* to be syphilis, and that this disease is not only fatal to them, but can be communicated by them to their nurses, and be propagated by the nurse to the destruction of more lives, is a fact that no man can pretend to deny. The nurse, however, must have a primary sore on her nipple or elsewhere, before she can disease the child. I know it to be a positive fact, that a nurse with secondary symptoms may suckle children with perfect impunity to them. Many instances have occurred where children have been diseased without the most remote proof that the father has ever been poxed. Many others where there is equally strong reason to suppose that the mother has never been poxed; and many where there is every reason to suppose that neither party have had the disease. To these positions, which are

applicable to the individuals of both sexes, has been added another, which is common to each, viz. that the wounds and fractures of persons infected with syphilis, unless when inflicted on diseased parts or their neighbourhood, heal as readily as those of uninfected persons,—a fact first insisted upon by Petit, which shows how little the powers which regenerate or model the human frame are affected by the syphilitic virus. Instances have occurred where a sound mother has brought forth a diseased child, and without taking any medicines of a mercurial kind, has afterwards brought forth a sound child. A case has been stated to me, where five children were thus *chequered*, while the mother, sound to all appearance, had never taken one grain of mercury; and to my own knowledge, a lady has brought forth three children at successive births, the 1st and 3d diseased, the 2d sound, without having taken any medicine but the decoction of the woods: the husbands in both cases men of irreproachable lives, and the women of acknowledged virtue. Whether there are any cases on record, where of two children born at the *same time*, one has been diseased and the other sound, I have not yet been able to ascertain." pp. 549—551.

A tabular view is thus introduced, showing the number of children born of parents belonging to the troops under our author's superintendence, who have undergone the non-mercurial cure for syphilis, with the results as far as can be ascertained.

"From this table it appears, that of 13 children born of parents treated without mercury, 11 have been born alive, and healthy, and two have been still-born: none of the 11 children have since died, nor manifested any suspicious symptoms of ill health, although some of them are now in their third year. Indeed, I question whether the balance of survivorship (assumed on the principles of Halley, De Moivre, or Price) is not in favour of the children born of parents treated without mercury; but this is a point which must be ascertained from a much greater number of individuals than my table at present comprehends." p. 554.

After some farther observations on the appearances of the disease in infants, Dr Hennen concludes his observations on syphilis in the following terms:

"Thus have I given a faithful account of all that I have learned with regard to the non-mercurial treatment of Syphilis, as it has been practised in the Military hospitals. It gives me great pleasure to be able to state, from good authority, that the practice has been adopted by some of the Naval surgeons with a success even greater than ours; and I have at present before me a letter, which, I trust, will soon be published in a more enlarged form, giving an account of the successful treatment of no less than fifty patients, in one ship, in one only of whom did secondary symptoms appear, (under the form of blotches,) and they were entirely removed in the course of eight

days, without the employment of one particle of mercury, either externally or internally. While these sheets are going through the press, I have also had before me testimonies from the officers of our own service, which still farther tend to confirm the principles which I have advocated. These documents will, at some future period, be submitted to the judgment of the profession." p. 560.

In transferring so large a proportion of the chapter on syphilis to our own pages, we have been actuated by the desire of doing justice to our author's views, supported, as they are, upon the present, and every other occasion, by extensive experience and important official documents. The readers of this Journal are already familiar with Dr Hennen as a writer on syphilis, and we have always been inclined to look upon him as one of the most temperate and cautious of the non-mercurialists. He has upon no one occasion denied the utility of mercury in some cases of syphilis, while he has always appeared anxious to support his conclusions by a reference to those tabular views of his practice, to which we are extremely partial. He has been particularly guarded in giving loose to his imagination, or permitting his doctrines to outrun his facts.

We lay claim also ourselves to some experience in the treatment of syphilis, and are conscious of early prepossessions in favour of the mercurial regime, which we find it extremely difficult to shake off, confirmed, as they have been, by a share of success which we think will bear a very favourable comparison with the results of any other mode of treatment whatever; and we sometimes feel surprised that some of our brethren, who must have been educated at the same time with ourselves, or perhaps at a period somewhat antecedent to it, should have been able so completely to emancipate themselves from what was the current doctrine of the schools fifteen or twenty years ago, and to adopt doctrines in many respects so different. This certainly does them much credit, and requires an effort of candour not always to be met with in the profession.

Much has been said of the progressive nature of syphilis, and of the insufficiency of any mode of treatment uniformly to prevent the occurrence of secondary symptoms; but we see the progress of other diseases interrupted by appropriate treatment, and why may it not be so here? We have seen an attack of fever cut short by the cold affusion; we have seen the progress of pneumonia arrested by bloodletting; and why may not the progress of syphilis be arrested by an adequate course of mercury? Notwithstanding an avowed partiality to the use of this medicine, we trust we are still open to conviction; and, as we conceive that the more or less frequent occurrence of secondary symp-

toms is the grand point upon which the comparative merits of the one or other mode of treatment should ultimately be made to hinge, we are willing to rest the value of mercury upon its power of preventing secondary symptoms, when properly and judiciously employed. We could wish to see a statement of the frequency of secondary symptoms after superficial and imperfect courses of mercury, compared with the frequency of these symptoms, after what have been deemed full and adequate courses of this medicine in the treatment of the primary symptoms. We have made arrangements for a tabular view of the results of our own practice on this point; but as the experience of persons not connected with a military hospital, or with an institution exclusively appropriated to the cure of venereal complaints, must necessarily accumulate slowly, a long period must elapse before our observations can be deemed worthy of being laid before the public, and we should rejoice to see a statement of this kind from any of our military brethren who may adhere to the mercurial plan of cure. If it shall distinctly appear that an adequate course of this mineral employed for the cure of primary venereal ulcers, in a constitution otherwise sound, has no power of preventing ulcerations of the throat, eruptions on the skin, and various other sequelæ, we know no useful purpose to which it can be directed, and will renounce it for ever in the treatment of syphilis.

The plates are the only other important addition to Dr Hennen's work which remains to be noticed. They are six in number, illustrative of various fractures and injuries of the bones by shot and sabre wounds, and the anatomy of stumps both in their sound and morbid state. They are extremely well engraved by Mitchell, and form a most useful and interesting part of the work.

In speaking of Dr Hennen's book as a whole, we cannot but admire the patient and laborious research, the indefatigable zeal and industry, which must have actuated the author in its composition; and we confidently recommend it to all classes of practitioners, both civil and military, as a work abounding with practical good sense, and replete with useful and available information.

VI.

Reports on the Epidemic Cholera, which has raged throughout Hindostan and the Peninsula of India, since August 1819. Published under the authority of Government. Bombay, 1819. Pp. 228 and xliii.

While typhus, the constant follower of war, was extending its ravages over even those parts of Europe which the sword had spared, an epidemic of another kind, and more alarming, as its effects were more speedy, and its causes more obscure, spread over the whole of our eastern possessions. Slight notices of it in private letters from India, and in the periodical publications of the East, besides the able communication to ourselves from Mr Anderson, (Edin. Med. Journal, Vol. XV, p. 354,) had only made us more anxious for a detailed and official account of this striking malady; and we hasten to take advantage of the very able report of the Bombay Medical Board, to make our readers thoroughly acquainted with the history of the epidemic, and, what rarely occurs in our professional pursuits, of the means by which it may be almost stripped of its terrors. In performing this public duty, we shall almost confine ourselves to extracts, never having seen the disease in question, and understanding that a still more copious and systematic work upon the subject is preparing at Calcutta.

"The cholera first appeared in August of last year (1817) in Zila Jessore, situated about a hundred miles north-east of Calcutta. There had been no previous marked peculiarity in the weather. The preceding cold and hot months were no wise different from those of former years; and the rainy season was proceeding with its wonted regularity. To the authorities on the spot there, the disorder seemed at first to be of a purely local description, and attributable to the intemperate use of rank fish, and bad rice. They were soon undeceived. After nearly depopulating the town of Jessore, it rapidly spread through the adjoining villages, and ran from district to district, until it brought the whole province of Bengal under its influence. It next extended to Behar, and, having visited the principal cities west and east of the Ganges, reached the upper provinces. There its progress was more irregular. Benares, Allahabad, Goruckpore, Lucknow, Cawnpore, and the more populous towns in their vicinity, were affected nearly in the regular course of time. But it was otherwise in more thinly peopled portions of the country. The disease would sometimes take a complete circle round a village, and, leaving it untouched, pass on, as if it were about wholly to depart from the district. Then, after a lapse of weeks, or even months, it would suddenly return, and, scarcely reappearing in the parts which had already

undergone its ravages, would nearly depopulate the spot that had so lately congratulated itself on its escape. Sometimes, after running a long course on one side of the Ganges, it would, as if arrested by some unknown agent, at once stop; and taking a rapid sweep across the river, lay all waste on the opposite bank. It rarely, however, failed to return to the tract which it had previously left. After leaving a district or town, it sometimes revisited it, but in such cases the second attacks were milder, and more readily subdued by medicine, than those in the primary visitation.

"The disorder shewed itself in Calcutta in the first week of September. Few were seized in the beginning; but of those few scarcely one survived. Each successive week added strength to the malady, and more extended influence to its operation. From January to the end of May, it may be said to have been at its full height; and during the whole of that period, the deaths in the city seldom, by the police returns, fell short of 200 a week.

"It, in turn, attacked every division, and almost every corps in the army. Of its fatal effects amongst the troops, a melancholy and signal instance is afforded in the history of its appearance in the centre division of the field army, under the personal command of the Most Noble the Commander in Chief. There it commenced its attack on the 18th or 19th of November; was at its utmost violence for four or five days; and finally withdrew in the first days of December. The division consisted of less than ten thousand fighting men; and the deaths, within twelve days, amounted, at the very lowest estimate, to three thousand; according to others to five, and even to eight thousand. The average loss of rank and file was between eighty and ninety men a battalion.

"The Epidemic was long in crossing the Bundlekund and Rewa Hills. It began to shew itself at Jubbulpore on the 10th of April; prevailed generally amidst the corps posted there at Mundelah, Saugor, and other subordinate stations, to the 21st, and nearly disappeared before the end of the month. Here its influence was singularly irregular. In the same camp, and under circumstances precisely similar, some corps were entirely exempt; others had a few mild cases only; and others, again, suffered very severely. The same irregularity held in different descriptions and classes of troops. The disease did not reach Colonel Adams's camp till the 29th of May. It raged very violently during four or five days; and continued its operations in a desultory manner till the succeeding month. In Bengal, and the middle provinces, it may now perhaps be considered as nearly at an end. Cases no doubt still now and then occur in Calcutta, and its vicinity; but these are rare, and should rather be reckoned sporadic, than as proofs of the subsistence of the epidemic. The returns from the different divisions of the army now leave the head of Cholera Morbus, in most cases, blank; and the reports of the civil surgeons are equally decisive of its general disappearance. At Delhi, Futtigur, and others of the more northern stations, whither the disease was long in spreading, it is still, the Board believe, in full force, and producing the most alarming mortality.

"Colonel Adams's force was on the 29th or 30th of May in the neighbourhood of Nagpour, where the disease had raged for some days. We do not know the exact period at which it appeared at Jaulnah, but believe it to have been the latter end of June or beginning of July, immediately after the arrival of a detachment from Nagpour. After passing over a space of 200 or 220 miles, after visiting Aurangabad and Amednuggur in its course, it reached Seroor, a distance of 150 miles, on the 18th or 19th of July. Towards the latter end of the same month it appeared in the city of Poona, although the troops encamped in its neighbourhood continued healthy for some time after. On the 6th of August it broke out with great violence at Panwell, a considerable village on the main line of communication between Poona and Bombay, separated from the latter by an arm of sea, and distant about 15 or 20 miles; but between which a pretty constant communication is kept up by means of boats. On 9th or 10th of the same month the first case appeared on this Island, and, as appears by Dr Taylor's report, could be traced to a man who had arrived from Panwell the same day. It is also evident by Dr Jukes's report, that it spread north and south along the sea coast from the same place, and that it was imported to a village in the neighbourhood of Tannah on the Island of Salsett, distant from this place about 20 miles, by a detachment of troops that escorted a state prisoner to that garrison from Panwell. The disease did not break out at Mahim, on the extremity of this island, distant only five or six miles from the principal native town of Bombay, until it had been established in the latter; it then gradually spread over the western side of the Island of Salsett, through which the road from Bombay to Surat and the northern countries lies, and by which, during the south-west monsoon, is the principal line of communication. By the observation of some individuals who, aware of the danger of the malady, and with the humane view of relieving the sufferings which it inevitably produced, carefully watched its progress, we are enabled to trace the disease as if creeping along from village to village on that island precisely in the same way, that is, by the arrival of people affected with the disease from places where it was known to prevail; and we are assured that there are some small villages on that island which, from want of this sort of communication, or from some other cause, have, after a lapse of four months, hitherto escaped entirely." pp. v—xi.

We have already noticed that the causes of this disease are involved in obscurity. The sporadic cases of cholera that we see in this country all arise in the hottest season of the year, and during the time that the subacid fruits, ripe and unripe, are greedily devoured by the people. Their appearance is sufficiently accounted for by obvious exciting causes, and none others can be suspected to act. But the epidemic of India has been so universal in its empire, extending even to the most dissimilar countries, and continuing during the most opposite sea-

sons, that its prevalence cannot be accounted for by causes peculiar to individuals, to the air, or to situation. Its almost regular progress from place to place, suggests the idea of a cause depending upon communication with the diseased; and we foresee that the operation of contagion, hitherto scarcely admitted to exist in our eastern empire, is soon to become as keenly contested as it has been in our western colonies. The Bombay Board evidently lean, though cautiously, to the opinion that it is contagious.

"In the first place, it has prevailed in degree, equally violent at all seasons of the year; in regard to temperature, from 40 or 50 degrees of Fahrenheit to 90 or 100; in regard to moisture, during the continuance of almost incessant rain for months, to that dry state of the atmosphere which scarcely leaves a vestige of vegetation on the surface of the earth. Secondly, although what has been adduced may not appear to some to be sufficient evidence of the fact, it appears to us incontrovertible, that it is capable of being transported from one place to another as in cases of ordinary contagion or infection, and also to possess the power of propagating itself by the same means that acknowledged contagions do, that is, by the acquisition of fresh materials with which to assimilate, at the same time, perhaps, subject to particular laws, with which we may never become acquainted. Aware, however, of the doubtful nature of the ground which we tread, amidst the contrary opinions that have been advanced on this subject, we shall content ourselves with stating a few facts, which have been supplied by gentlemen whose reports have been already printed, and which might be increased far beyond the limits to which we think it necessary to confine ourselves. In October last, when the disease had almost disappeared at Tannah, the attention of Mr Jukes was called to a case that had appeared in one of the apartments of the barracks of that fort appropriated to European troops; this, owing to too late application for medical aid, soon terminated fatally. Another case occurred a few hours afterwards, the subject of which was saved with much difficulty and danger; and, in the course of six succeeding days, no less than nine cases occurred in the same apartment. The curiosity of Mr Jukes was naturally excited to ascertain under what circumstances so much disease was produced, and, on examination, the ward appeared to be both badly ventilated and too much crowded with men; the place was immediately emptied, scoured and fumigated, after which no other case occurred. Since the middle of December, when we had flattered ourselves that the disease was vanishing, as the cold season advanced, the number of cases considerably increased in this island, Salsett, and the Conkan, and, consequently, excited much alarm; in some instances these cases have been confined to particular spots, and sometimes to particular houses, where the disease has attacked and destroyed in succession whole families, consisting of three, four, and five persons, while in others only a single case, or, at most,

very few, have occurred. We are utterly ignorant of any local circumstances to which such a change can be ascribed, unless by supposing that a diminution of temperature, together with exposure, may have called into action some latent remains of an active poison; otherwise it seems difficult to reconcile those facts with what is observed in ordinary epidemics." pp. xi—xiv.

"The exciting and proximate causes of this interesting epidemic, although of the greatest importance to be understood, are, like those of most other epidemical diseases, concealed under complete obscurity, "*atra caligine mersæ.*" Great difference of opinion exists among practitioners, as to its contagious or non-contagious influence; and this difference very naturally arises out of the difficulty of the subject; and, when we consider the various and opposite opinions entertained by the most experienced practitioners of Europe on the same question, respecting the influenza of 1803, and the divided sentiments which have so long agitated the medical world on the subject of the yellow fever, and even typhus itself, we do not venture at present to decide on so important a point. Several irresistible facts already noticed, or related in the following reports, and its marked anomaly from all hitherto known simple epidemics, would seem to favour the doctrine of contagion, while the contrary supposition is only supported by a species of negative evidence. This is a question, however, of the greatest importance, and ought not to be too hastily entertained as proved, nor rejected as unfounded, but prosecuted with that diligent inquiry, and cautious induction, which, on every subject of science, are so necessary to the attainment of truth; and we entertain a confident hope, that the wide range through India which the disease has taken, will have afforded to some gentlemen more ample means of determining it than we possess.

"The predisposing causes are more obvious; and, on this point, practitioners are unanimous. Rapid atmospherical vicissitudes, in regard either to temperature or moisture; exposure of the body to currents of cold air, particularly the chill of the evening, after being heated by violent exercise of any kind, inducing debility or exhaustion; low marshy situations; insufficient clothing; flatulent and indigestible food, especially crude and watery vegetables, which compose a large proportion of the diet of the natives; and particularly that gradual undermining of the constitution which arises in a condensed, dirty, and ill-fed mass of population, are all, unquestionably, powerful predisposing causes; and though not necessary to the production of the disease, do, when present, offer a more unlimited range to the operation of the original cause, whatever that may be. Sad experience has, however, shown that the absence of all those affords no security against the attack; although it appears that a much smaller proportion of the higher orders of society have suffered from it on this side of India, than in the Bengal provinces; and, in this island, the disease has been confined almost exclusively to that class who are most exposed to the severest labour and privation." pp. xxviii—xxxi.

The history of the symptoms of the disease has been so well described by the Bengal Medical Board, that that of Bombay has thought proper to adopt it, noticing merely the peculiarities observed in the circumstances under their immediate inspection.

"The healthy and unhealthy; the strong and feeble; Europeans and natives; the Mussulman and Hindoo; the old and young of both sexes, and of every temperament and condition; were alike within its influence.

"The attack was generally ushered in by sense of weakness, trembling, giddiness, nausea, violent retching, vomiting and purging of a watery, starchy, whey-coloured, or greenish fluid. These symptoms were accompanied, or quickly followed by severe cramps; generally beginning in the fingers and toes, and thence extending to the wrists and fore-arms, calves of the legs, thighs, abdomen, and lower part of the thorax. These were soon succeeded by pain; constriction; and oppression of the stomach and pericardium; great sense of internal heat; inordinate thirst, and incessant calls for cold water, which was no sooner swallowed than rejected, together with a quantity of phlegm, or whitish fluid, like seethings of oatmeal. The action of the heart and arteries now nearly ceased; the pulse either became altogether imperceptible at the wrists and temples, or so weak as to give to the finger only an indistinct feeling of fluttering. The respiration was laborious and hurried; sometimes with long and frequently broken inspirations. The skin grew cold, clammy, covered with large drops of sweat, dank and disagreeable to the feel, and discoloured of a bluish, purple, or livid hue. There was great and sudden prostration of strength; anguish; and agitation. The countenance became collapsed; the eyes suffused, fixed, and glassy, or heavy and dull; sunk in their sockets, and surrounded by dark circles; the cheeks and lips livid and bloodless; and the whole surface of the body nearly devoid of feeling. In feeble habits, where the attack was exceedingly violent, and unresisted by medicine, the scene was soon closed. The circulation and animal heat never returned; the vomiting and purging continued, with thirst and restlessness; the patient became delirious or insensible, with his eyes fixed in a vacant stare, and sunk down in the bed; the spasms increased, generally within four or five hours.

"The disease sometimes at once, and as if it were momentarily, seized persons in perfect health; at other times, those who had been debilitated by previous bodily ailment, and individuals in the latter predicament, generally sunk under the attack. Sometimes the stomach and bowels were disordered for some days before the attack; which would then in a moment come on in full force, and speedily reduce the patients to extremities.

"Such was the general appearance of the disease where it cut off the patient in its earlier stages. The primary symptoms, however, in many cases admitted of considerable variety. Sometimes, the sickness and looseness were preceded by spasms. Sometimes, the patient

sunk at once after passing off a small quantity of colourless fluid by vomiting and stool. The matter vomited in the early stages was, in most cases, colourless, or milky; sometimes it was green. In like manner, the dejections were usually watery and muddy; sometimes red and bloody; and, in a few cases, they consisted of a greenish pulp, like half digested vegetables. In no instance was feculent matter passed in the commencement of the disease. The cramps usually began in the extremities, and thence gradually crept to the trunk; sometimes they were simultaneous in both; and sometimes the order of succession was reversed; the abdomen being first affected, and then the hands and feet. These spasms hardly amounted to general convulsion. They seemed rather affections of individual muscles, and of particular sets of fibres of those muscles; causing thrilling and quivering in the affected parts, like the flesh of crimped salmon; and firmly stiffening and contorting the toes and fingers. The patient always complained of pain across the belly; which was generally painful to the touch, and sometimes hard and drawn back towards the spine. The burning sensation in the stomach and bowels was always present; and at times extended along the cardia and œsophagus to the throat. The powers of voluntary motion were in every instance impaired, and the mind obscured. The patient staggered like a drunken man; or fell down like a helpless child. Headach, over one or both eyes, sometimes, but rarely, occurred. The pulse, when to be felt, was generally regular, and extremely feeble, sometimes soft, not very quick; usually ranging from 80 to 100. In a few instances, it rose to 140 or 150, shortly before death. Then it was distinct, small, feeble, and irregular. Sometimes very rapid, then slow for one or two beats. The mouth was hot and dry; the tongue parched, and deeply furred, white, yellow, red or brown. The urine at first generally limpid, and freely passed; sometimes scanty, with such difficulty as almost to amount to strangury; and sometimes hardly secreted in any quantity, as if the kidneys had ceased to perform their office. In a few cases, the hands were tremulous. In others, the patient declared himself free from pain and uneasiness; when want of pulse, cold skin, and anxiety of features, portended speedy death. The cramp was invariably increased upon moving.

"Where the strength of the patient's constitution, or the curative means administered, were, although inadequate wholly to subdue the disease, sufficient to resist the violence of its onset; nature made various efforts to rally; and held out strong, but fallacious promises of returning health. In such cases, the heat was sometimes wholly, at others, partially restored; the chest and abdomen in the latter case becoming warm, whilst the limbs kept deadly cold. The pulse would return; grow moderate and full; the vomiting and cramps disappear; the nausea diminish; and the stools become green, pitchy, and even feculent, and with all these favourable appearances, the patient would suddenly relapse; chills, hiccup, want of sleep, and anxiety would

arise; the vomiting, oppression, and insensibility return, and in a few hours terminate in death.

"When the disorder ran its full course, the following appearancer presented themselves:—What maybe termed the cold stage, or the state of collapse, usually lasted from 24 to 48 hours, and was seldom of more than three complete days' duration. Throughout the first 24 hours nearly all the symptoms of deadly oppression, the cold skin, feeble pulse, vomiting and purging, cramps, thirst, and anguish, continued undiminished. When the system shewed symptoms of revival; the vital powers began to rally; the circulation, and heat to be restored; and the spasms and sickness to be considerably diminished. The warmth gradually returned; the pulse rose in strength and fulness, and then became sharp, and sometimes hard. The tongue grew more deeply furred; the thirst continued, with less nausea. The stools were no longer like water; they became first brown and watery; then dark, black, and pitchy; and the bowels, during many days, continued to discharge immense loads of vitiated bile, until, with returning health, the secretions of the liver and other viscera gradually put on a natural appearance. The fever, which invariably attended this second stage of the disease, may be considered to have been rather the result of nature's effort to recover herself from the rude shock which she had sustained; than as forming any integrant and necessary part of the disorder itself. It partook much of the nature of the common bilious attacks prevalent in these latitudes. There was the hot dry skin; foul, deeply furred, dry, tongue; parched mouth; sick stomach; depraved secretions, and quick variable pulse; sometimes with stupor, delirium, and other marked affections of the brain. When the disorder proved fatal after reaching this stage, the tongue, from being cream-coloured, grew brown, and sometimes dark, hard, and more deeply furred; the teeth and lips were covered with sordes; the state of the skin varied, chills alternating with flushes of heat; the pulse became weak and tremulous; catching of the breath; great restlessness, and deep moaning succeeded; and the patient soon sunk, insensible, under the debilitating effects of frequent, dark, pitchy, alvine discharges.

"Of those who died, it was believed, perhaps rather fancifully, that the bodies sooner underwent putrefaction, than those of persons dying under the ordinary circumstances of mortality. The bodies of those who had sunk in the earlier stages of the malady exhibited hardly any unhealthy appearance. Even in them, however, it was observed, that the intestines were paler and more distended with air than usual; and that the abdomen, upon being laid open, emitted a peculiar offensive odour, wholly different from the usual smell of dead subjects. In the bodies of those who had lived some time after the commencement of the attack, the stomach was generally of natural appearance externally. The colour of the intestines varied from deep rose to a dark hue; according as the increased vascular action had been arterial or venous. The stomach, on being cut into, was found filled, sometimes with a transparent, a green, or dark flaky

fluid. On removing this, its internal coats in some cases were perfectly healthy; in others, and more generally, they were crossed by streaks of a deep red; interspersed with spots of inflammation, made up of tissues of enlarged vessels. This appearance was frequently continued to the duodenum. In a very few cases the whole internal surface of the stomach was covered with coagulable lymph; on removing which, a bloody gelatine was found laid on the interior coat in ridges or elevated streaks. The large intestines were sometimes filled with muddy fluid, sometimes livid, with dark bile, like tar; just as the individual had died in the earlier or later periods of the attack. In most cases, the liver was enlarged, and gorged with blood. In a few, it was large, soft, light-coloured, with greyish spots, and not very turgid. In others again it was collapsed and flaccid. The gall bladder was, without exception, full of dark green or black bile. The spleen and thoracic viscera were in general healthy. The great venous vessels were usually gorged; and in one case the left ventricle of the heart was extremely turgid. The brain was generally of natural appearance. In one or two instances, lymph was effused between its membranes, near the coronal suture, so as to cause extensive adhesions. In other cases, the sinuses, and the veins leading to them, were stuffed with very dark blood."—*Bengal Report.*

"After the above luminous description, and what will be found in the reports which follow, it appears quite superfluous to enter here into any farther detail of the symptoms of this disease; we shall only, therefore, mention, that the subsequent fever, which it appears has generally accompanied it in Bengal, has been but little, if it all, observed on this side of India; and, as we have before noticed, may be owing, in a great degree, to the more extended influence of those causes, which are known to produce the bilious remittent fever as an epidemic in the Bengal provinces than on this side of the Peninsula; for it can scarcely be supposed that a disease, so uniform in its attack and in its course, should, as it were, deviate from itself in any considerable degree, without the agency of some local cause; and we entirely agree in the opinion, that it cannot be fairly considered as forming a part of it." pp. xv—xxii.

The disease, or at least one very much akin to it, has been described as occurring epidemically in this island, by Dr Sydenham, in 1669, and by Dr Brady, in 1674-5-6; and of its former appearance in tropical countries, the Bombay report refers to Mr Girdleston, Dr Clark, Mr Curtis, and Dr Johnson, as the most instructive writers.

In such a disease, so rapid in its career, and so fatal in its effects, when left to the course of nature, it is gratifying to learn, that our professional skill, so often unjustly reproached for its inefficiency, has obtained a triumph which secures it against the utmost efforts of scepticism and ridicule.

"We have before-mentioned, that Dr James Johnson, of the Royal Navy, seems to have been the first to have pointed out the best me-

thod of cure. Since most of the foregoing remarks were written, we have seen the second edition of that gentleman's valuable work, in which we find a strong corroborative testimony to the utility of blood-letting in this disease, or one somewhat similar to it, on the coast of Brazil, by Mr Sheppard of Witney, without the assistance of any other remedy. The public are greatly indebted to Mr Corbyn, of the Bengal Establishment, for his clear and comprehensive letter on this subject, at a time when the disease was producing the most dreadful ravages: the early communication of his practice has been the means of saving thousands of lives in situations where Dr Johnson's work might not be known." pp. xli, xlii.

Mr Corbyn, in his letter from Camp Eritch, dated November 26, 1817, says, on the 16th of this month 160 patients were admitted.

"I immediately gave to each patient 15 grains of calomel, which I dropped on the tongue, and washed it down with 60 drops of laudanum, and 20 drops of peppermint, in two ounces of water.

"Before I go further, it will be necessary to mention to you, that laudanum, in a large dose of 60 drops, is not a stimulant, but a sedative; whereas laudanum, from 15 drops to 20 and 30, is a stimulant; the former produces sound sleep, removes spasm and irritability, whilst the latter excites considerable uneasiness and convulsive startings.

"It will appear the more remarkable to you when I also mention that the variation of a dose of calomel has the same effects.

"Calomel, in a dose from 5, 8, to 10 grains, excites lassitude, sickness, irritation of the bowels, and, on account of its being a stimulant, acts as a good purgative; but calomel, in a dose from 15 grains to 20, is a sedative, allays vomiting, removes spasm, sends the patient to sleep, and produces one or two motions.

"You will now observe on what principle I treated my patients; not on a plan of giving powerful stimulants, but on one which at once removes the irritability and spasm, composes the stomach and the bowels, produces sleep and tranquillity of the mind, excites the secretion of the liver, and prevents the progress of inflammation.

"On the second day, it was indeed a consolatory sight to observe the wonderful change.

"The vomiting and the purging had stopped, the spasms removed, with general moisture on the skin, they had experienced sound sleep, and the pulse had returned to the wrist.

"I now gave 30 grains of jalap, which effected one or two bilious motions.—Of one hundred and ten men, I only lost two, and those were decrepid aged men, in whom the vital energies were at once extinguished,—the remaining one hundred and eight I had the good fortune to see all recover."—Addit. App. pp. 2, 3.

The appearance of the disease among European soldiers, and the striking effect of venesection in them, we quote from a letter of Dr Burrel of the 65th regiment.

"*Seroor, 27th July* 1818.

"The Cholera Morbus has been in these cantonments since the 18th instant. In the 65th regiment it commenced on the 21st.—The admissions are as follow:—

"21st 1; 22d 6; 23d 6; 24th 18; 25th 22; 26th 7; total 60; deceased 4.

"The soldiers of the regiment, not aware of the danger of the disease, did not report themselves for the few days after they felt unwell. These cases comprised the admissions of the 21st and 22d inst. When admitted into regimental hospital, the utmost debility was apparent, consisting of feeble pulse, cold extremities, nausea, and constant vomiting, with spasms. These were followed by universal sinking and coldness of the body; and death ensued in the space of twelve, fourteen, and twenty-one hours after admission. The warm bath, calomel, and opium were tried, along with the most powerful stimulants, with little success.

"On the 22d instant, when the men had been duly warned of danger from not reporting themselves sooner, I got into hospital a different description of cases; viz. men with a full pulse, hot skin, constant vomiting of white matter like thick conjee, seldom any purging; if it existed, it was like the matter vomited. Bleeding was used in every case with so much success, that I have no hesitation in recommending its adoption.

"The first symptoms in the attack were languor, with occasional pains, and sense of numbness in the extremities, violent headache, and thirst; shortly there ensued nausea, vomiting of slimy matter, weight over the præcordia, with griping in the bowels, small stools of white slimy matter, no appearance of bile from the stomach or bowels. The spasms followed in many cases so violent as to require six men to hold the patient. If relief was not immediately given, it is astonishing how soon the system sinks under the attack, marked by the ends of the fingers and toes getting cold, pulse and motion of the heart ceasing, with a livid mark round the eyes. From this state some men recovered, under the stimulating plan, although they had lain in that condition from six to twelve hours; but it is to be looked upon as one of the most dangerous symptoms of the disease.

"On admission I bled in every instance, in general to a good extent. Where universal spasms existed, venesection was carried on *ad deliquium*, the patients at the same time in the hot bath at 110 degrees. The spasms were invariably relieved, nausea and vomiting alleviated, so that the stomach bore the exhibition of the calomel in scruple doses, combined with laudanum; which doses were frequently repeated. In short, opium was given under every combination, with calomel; and I believe the calomel will be found to rest on most stomachs *per se*.

"The application of blisters was not attended with much advantage, although they might do good in some cases. Every dependence is to be placed on the hot bath, with the means above mentioned. Frictions, with stimulants to relieve the cramps, are never to be depended upon when the patient comes under treatment in the first

stage; as bleeding relieves the congestion of the liver and internal parts, and the patient falls into a refreshing sleep. The next day his gums will likely be affected, stomach quiet, and capable of bearing some of the common cathartics, the exhibition of which is followed by dark bilious stools.

"From having so much duty at present, I am sorry I cannot enlarge upon this topic; but have only to mention my full confidence of bleeding in Europeans. The result is most striking in our hospital, as it in every case lessens the irritation of the stomach, one of the most dangerous symptoms in this disease. Bleeding has been tried on the native attendants with the same good success.

"As every epidemic, by accumulation of subject, has a tendency to propagate its virus, I am cautious in reporting this disease not infectious. Almost every attendant in the hospital, in the short space of six days, has had the disease;—there are about thirty attendants in hospital.

"The regiment is about 800 strong. The admissions from the regiment bear no proportion to the attendants who have been taken sick. The mercurial influence in a small degree does not guard the patient from attack, as has been clearly proved in our wards; full mercurial influence might prevent it."

"*Seroor, 10th August* 1818.

"As dissections of cases of cholera morbus were not sent you along with my statement of the 28th ult. I beg to send you a few remarks on this subject.

"As congestion has been found in all our former fatal cases, I yesterday had another demonstrative instance of the eligibility of bleeding in cholera.

"John Stokes, of the 65th regiment, a man recovered from chronic syphilis, was attacked in our wards with vomiting and purging at eight P.M. of the 8th inst. When seen, his hands and feet were cold, with some rigidity. Under these circumstances, and he being of a weakly habit, bleeding (I may say unfortunately) was not used. The usual remedies, with the hot bath, were tried. He died on the 9th inst. at two P. M.

"In company with Dr White of the 2d N. I. and Assistant-surgeon O'Reilly, 65th regiment, I opened the body. The liver was found of a dark colour, distended with blood, and the gall-bladder full of bile. The spleen of an extremely blue colour. The omentum inflamed, and veins filled in every part. The small arteries of the intestines of a lively red; and the colon contracted through its length to the size of a middle finger, and its calibre so small as hardly to allow a scalpel handle to be introduced.

"The veins of the stomach more particularly arrested our attention. On the great curvature, they were of an intermediate size, between a crow's and a common quill. These turgid veins were more apparent internally, and the most forcible injection could not have more completely filled the vessels. The mesenteric vessels, as well as the vessels of every other internal membrane, partook of this appearance of formerly increased action. The lungs were dark, and suffused with

blood; this, most probably, is the cause of the stertorous and laboured breathing present in almost every fatal case.

"From former dissections, and the appearances in this case, little doubt ought to arise regarding the exigence of bleeding in almost every case, but more especially in the first hours of attack. If even during the cold and rigid state of the limbs, should the pulse rise in the hot bath, which it generally does, we ought not to hesitate in opening a vein; as recovery from this stage is most precarious, and every experiment may therefore be tried.

"As dissection in this disease has shown, and will in every case show, turgidity, if not inflammation, of the vessels of the internal parts, no hesitation as to what line of practice is best should harbour in the minds of medical men during the prevalence of so dreadful a disease.

"Under this idea of increase of action internally, and consequent want of balance in the circulation, from which arises the coldness and shrinking of the external parts, I commenced the bleeding system; and of the cases admitted of cholera, since the 21st ultimo, up to the 10th August, the casualties run thus,

Bled, -	88	Dead,	2
Not Bled,	12	Dead,	8
Total admissions,	100	Deaths,	10

"Our cases of dysentery in the chronic stage in the hospital have been aggravated in many instances, appearing as if the epidemic gave a peculiar character of symptoms to the usual endemial diseases.

"Relapses of cholera have not been unfrequent, and the regularity of the bowels must be strictly attended to in the stages of convalescence.

"Some of these relapses require the same treatment as the original attacks. In one European woman the attack proved fatal."

We have been so liberal in our quotations, that we have only room to add, that to the report of the Board are added all the documents upon which it is founded, and which do great credit to our professional brethren in the East, and to several of the military gentlemen, who have shown themselves accurate observers, and unremitting in their exertions to alleviate human misery.

"In conclusion, we shall only add, that, whatever place may hereafter be assigned to this disease in nosological arrangement, we cannot help thinking that its present appellation of Cholera must be discontinued. If true cholera morbus be, as we have been taught by nosologists to conclude, a morbid flow of bile, the present disease surely cannot be ranked with it; and we agree entirely with Sydenham, (if the quotation we have formerly made from him be allowed to be applicable to our present purpose,) that though possessing many symptoms in common, the diseases are yet *toto cœlo* of a different nature. "Quisquis autem *cholera morbi legitimi* phænomena studiose collegerit, fatebitur morbum istum, quamvis eorundem symptomatum nonnullis stipatum, ab hoc nostro toto cœlo distare."—pp. xlii, xliii.

PART III.

MEDICAL INTELLIGENCE.

THE anniversary dinner of the Institution for the Benefit of the Widows of the Medical Officers of the Army, founded by Sir James M'Grigor, was held at the Thatched House Tavern, St James's Street, on the 26th of May, Dr Borland, Inspector of Hospitals, in the chair; when one hundred gentlemen sat down to dinner. Among the guests were Dr Latham, President of the College of Physicians; Sir David Dundas, Master of the College of Surgeons; the Master of the Worshipful Company of Apothecaries; Sir Everard Home; Sir Matthew Tierney; Mr Crampton, Surgeon-General of Ireland; Drs Baillie, Cook, Sutton, and Drs Johnson and Beattie of the Royal Navy; Professor Brand; Messrs Wilson, Carpue, Brooks, Brodie, Alexander, &c.

The objects of the Institution, now in its fifth year, having been most fully obtained, payment of the pensions to widows commences in January next. The Society for the Widows of Medical Officers of the Army having succeeded beyond all expectation, it is now in contemplation to establish a subsidiary society for orphans, with a fund for benevolent purposes.

There are now 590 subscribers, (of whom 412 are unmarried,) and the capital stock of the society amounts to L. 17,169, 16s. 7d. 3 per cents. reduced, producing, with the subscriptions, nearly L. 2600 a-year; being an increase, after filling up vacancies by death and otherwise, of 10 members, and of L. 4000 3 per cents. since the last annual meeting.

Extracts from a Letter from a Physician in London to Dr DUNCAN.

1. *The Nerve Operation.*

THE operation for cutting out about half or three quarters of an inch of the trunk of the nerve on each side of the leg of the horse continues to be practised with the greatest success. There is nothing lost, but pretty considerable gain, from this practice. The animal is released from the torment he endures every time he is compelled to locomotion, and rendered fit for slow, if not for quick work. The stories circulated of the hoof dropping off, and gangrene of the foot coming on, are the offspring of the *jalousie de metier*. It must be owned, it has been very properly

a question determinable by experience only, whether the nerve should be cut out on each side of the cannon bone, or the principal part of that nerve on each side of the long pastern. The latter mode appears to be all that is necessary; indeed, to do more is likely to do mischief. The bitterest rebuke to the adverse party is, the sum of money voluntarily presented to Mr Sewel, and, at the same time, a handsome augmentation of his salary, by the noblemen and gentlemen, the managers of the Royal Veterinary College, at their last annual meeting.

Red Snow.

You have probably heard that this colour is by some highly ingenious experiments shown to be occasioned by a cryptogamous plant, which possesses some properties of animal matter, particularly in containing globular particles, like blood, pus, &c.; also the residuary matter of the evaporated water from the red snow was made to vegetate, producing the asserted cryptogamous plant.

2. *Mildew of Wheat.*

This injurious effect on corn is, you know, believed to be occasioned by a parasite plant. A well known ingenious veteran in science has communicated to the Board of Agriculture a very cheap, simple, and efficacious mode of destroying it, namely, by a common labourer sprinkling salted water upon the ears of the wheat, which can be done to the extent of eight to ten acres a day.

3. *Cows poisoned by the external Application of Tobacco and Corrosive Sublimate.*

For the mange in five cows of Mr Hatchett, a man, vulgarly called a beast-leech or cow-doctor, applied a preparation containing these two substances. In the course of one hour and a quarter, they all died, preceded by convulsions. The facts were proven, on an action against this doctor, to the satisfaction of the jury, who awarded the damages. An experiment has been subsequently made by an intelligent medical practitioner on the diseases of dogs, in which six grains of shag tobacco, infused in about one drachm of water, being applied to the skin of a dog, presently killed the animal. It is, however, well known that dogs are very commonly washed with tobacco water for the mange, without poisoning them; but I have known it occasion long continued nausea, vomiting, purging, and discharge of urine. Probably, however, it requires a concentrated solution of tobacco to prove destructive to life. The same observation is made on the effects of corrosive sublimate and tobacco in the case of Mr Hatchett's cows. Probably, too, these applications may have occasionally produced death, but the cases were unnoticed. It is also questionable, whether the tobacco or corrosive poisoned the cows, or the two conjointly. Tobacco does not kill horses, for it is very commonly eaten with corn, to increase the appetite, nor do very large doses of corrosive sublimate taken internally poison them.

4. *Mercury in the Syphilis.*

It must not be supposed that the most judicious practitioners have disused mercury in the venereal disease: it is still used in reality

more limitedly. They still find either that they cannot cure venereal sores and other venereal cases without this drug, or that the cure is accelerated by it. The necessary time for the intervention of mercury requires more knowledge and judgment than the greater part of practitioners possess; hence the very frequent, unnecessary, and injurious use of this article. Certainly the lately made observations of Dr Fergusson, Mr Rose, and others, have already produced an improvement worthy to be designated by the title of an *æra*. The benefit to the community of this limited employment of a drug formerly so profusely and unnecessarily prescribed in the Lock and other hospitals, entitles the authors to the best rewards. These, however, are neglected, while parliamentary remuneration is conferred on the artful and bold pretender, under the auspices of a minister utterly incompetent to judge of medical subjects.

5. *Secretion of Pus without Constitutional Disorder.*

A man continued his avocation as a gunner for many months with a large swelling among the muscles of the upper arm. He was in perfect health. On arriving in town from Hastings to transact business, he casually called upon me to show the swelling. Except for the weight, he felt no inconvenience from the swelling. It was doubtful of what it consisted. On puncturing it, I believe nearly a pint of pus was discharged. The discharge gradually ceased; and, in six weeks, the patient informed me he had got well of the abscess, and continued in the best health. In other cases, it is well known that a similar abscess is attended with much constitutional disorder, even hectic fever, an ulcer, and finally death. I fear we have little control over those states of the constitution on which depend such different effects from the similar local diseases.

6. *Sarsaparilla.*

They who believe that this article possesses great medical virtues will feel interested on hearing that Mr Battley has bestowed much successful labour in improving the preparations of it. Mr Battley asserts, from experiments, that the medical virtue of sarsaparilla "resides exclusively in the cortical part, and that such virtues may be disengaged by infusion in cold water. The root, thus treated, becomes a tasteless and inert substance; and it follows, that, when the cortical part has been injured, or when, in the preparation of the medicine, the ligneous part of the root has been chiefly regarded, the remedy so prepared must be in a great measure, if not wholly, inefficacious. Various modes of improving on the simple infusion will readily suggest themselves; and I find an elegant and efficacious preparation is, infusing the entire root in lime-water."

Extract from a Letter from Dr SANDERS, *Lecturer on the Practice of Physic, Edinburgh, to Dr* DUNCAN, *junior.*

It will not, I trust, be unacceptable to you to know precisely the results of my anatomical inquiries on Tetanus,—results, indeed, connected with the whole tribe of spasmodic diseases.

Professional avocations do not allow me, at present, to enter into any elaborate detail or discussion; permit me, therefore, to state briefly the general facts.

1. If any muscle, voluntary or involuntary, is affected with spasm, and, during this affection, the person dies, on examination it is found, that the nerves, which supply the spasmed muscle, are covered with turgid red vessels at their visible origins, or where they appear to set off from the brain, medulla oblongata, or spinal marrow.

This turgescence, and the effects of turgescence, are in the ratio of the degree and duration conjointly of the spasm or convulsion.

The turgid vessels, in every obstinate and severe case, may be traced into the substance of the spinal marrow, by the sides of the striæ, which seem to be the continuations of the nervous filaments; as also along the nervous cords, through their sheaths formed in the dura mater.

The position of the body after death has no appreciable influence on these appearances: they are observed anteriorly, or posteriorly, in the loins, thorax, cervix, or within the skull, bearing strict relation to the parts which have evinced spasmodic action.

But the nerves serving the muscles which have not laboured under spasm or convulsion, are free from turgid vessels.

2. If the tetanic affection is confined to the jaws, certain nerves arising from the tuber annulare and medulla oblongata are found in the state above described.

But if the tetanic affection involves the whole inferior extremities, and the trunk of the body, as well as the jaws, then the origins of the nerves from the *tuber annulare* to the *cauda equina* are covered with turgid red vessels.

In short, the nerves exhibiting such turgescence at their origins, correspond in number and situation with the muscles which have exhibited inordinate contraction; I have conducted this investigation for about sixteen years, and have not met with one exception.

Some are of opinion, that I maintain, that the spinal marrow, its nerves, and membranes, are always affected with turgid vessels in tetanus: this is incorrect. I have examined cases of trismus, in which the spinal marrow, its membranes, and nerves, were almost entirely sound, from the atlas to the lumbar vertebræ; in these instances, however, not only the origins of the nerves at the medulla oblongata, but the medulla itself, was inclosed with a close net-work of turgid red vessels.

There are many other appearances within the cranium and spinal canal more or less connected with spasms and convulsions; but those, which I have here related, are uniform, and accordingly constitute, we have reason to believe, an essential part of these diseases.

Morbid changes in the organization, or substance of the brain, and spinal marrow, or in their envelopes, belong to another order of maladies, and when present in those affected with spasms, the symptoms always indicate complication.

If you deem this communication deserving, let it have a place in the Journal.

Edinburgh, 8th May 1820.

Extract of a Letter from EBENEZER CLARKSON, *Esq. Surgeon in Selkirk, to Dr* ABERCROMBIE, *on a remarkable Affection of the Intestinal Canal.*

IN compliance with your request, I now attempt to narrate the particulars of the case I mentioned to you of obstructed bowels, in which I had found the use of galvanism so efficacious in its removal. It was on the 25th of January last that I was called to visit a gentleman in this neighbourhood, about 50 years of age; he had formerly been under my care more than once, for dyspepsia, &c. &c. He now complained of great sickness at stomach, vomiting, with pain in the right side, immediately under the liver; he shrunk from the touch of it; it felt hard and circumscribed, about the size of a crown piece; in my absence an opiate and dose of castor oil had been administered, with little relief, though the oil had procured repeated evacuations. I suspected some obstinate obstruction in some part of the intestine; for though he denied having neglected his bowels, having his usual calls, yet I had so often found this to be a fallacious test, and from his extreme sickness at stomach, foul tongue, the fixed pain, and pulse 120, I immediately gave him five grains of calomel, combined with three grains of the antimonial tartar. In about an hour he vomited freely a great quantity of viscid phlegm, and, in the course of the night, had three copious stools of dark-coloured hardened feces. He felt much relieved; pulse considerably fallen, but still complained of pain in the side, and it was still painful to the touch; repeated and increased doses of calomel, castor oil, and other active purgatives, were had recourse to, without much effect; fomentations and repeated anodynes produced merely momentary relief; his pulse, though quick, never indicated the propriety of abstracting blood, which, from an acquaintance with his constitution, I was induced to avoid; I therefore continued the use of purgatives, and he took doses of 6, 10, 15, and even 20 grains of calomel every four hours, without much effect on his bowels, till aided by repeated and strong injections. I hesitated about trying the tobacco injection, from a dread of the sickness I have seen it produce. This mode of treatment was, with little variety, continued for a fortnight. I repeatedly spoke of blistering the abdomen, but this he had a great dislike to; in short, the obstinacy of the case somewhat alarmed me, and having read of the wonderful effects of galvanism in somewhat similar cases, by Mons. le Beaume, &c. I determined to try its effects with a trough of about 50 pair of plates of about two inches broad and deep. (I at first used the acid to fill it, and touching the skin where it was to be applied with it, but afterwards gave the preference to salt water.) I began by applying the knobs all around the hardened and pained part, he not bearing the touch on the hard part; but after using it for from twenty minutes to half an hour at a time, twice a-day, he bore it without complaining, in two

days. In short, every application gave more and more relief, and in ten days it was entirely discontinued, the hardness and pain being completely gone, and his evacuations becoming perfectly natural. After continuing for several days to discharge much black hardened feces, he gradually recovered his strength and appetite, and has ever since enjoyed better health, and more natural state of bowels than for some years past.

The above case has given me a high idea of the value of galvanism, as a most active, useful agent, and I shall be happy to find that in your extensive practice you find it confirmed.

Observations by Dr ABERCROMBIE.

To Mr Clarkson's very distinct account of this important case, I beg leave to add one circumstance, communicated to me by Mr J. Clarkson his son, who took charge of applying the galvanism. He states, that, after the application had been made for a few minutes, there usually (if not always) commenced a commotion of the bowels, with a rumbling noise, and that this was followed, after a certain time, by a full evacuation. This evacuation sometimes did not take place until after the galvanism had been continued for the usual time, (about twenty minutes,) but at other times, the call became so urgent during the application, as to oblige him to suspend it, and allow the patient to retire. The case is extremely interesting, and calls our attention to an agent hitherto little attended to in affections of this nature. May I be allowed to refer to its accordance with certain conjectures which I have hazarded on the pathology of the intestinal canal? The whole phenomena of the case seem to give considerable reason to believe that the principal seat of the disease was the part in the right side which was tense and painful; that there a portion of the intestines was in a state of over distention and inaction; that the galvanism acted on this part by restoring its muscular action; and that the canal then recovered its healthy relations. The immediate effect of the galvanism in producing evacuation of the bowels, as noticed by Mr Clarkson, junior, is particularly worthy of attention. I do not see how it can be accounted for on any other principle.

Observations on Diversity of Position in the Colon. By JOHN YELLOLY, *M. D. F. R. S. Physician to his Royal Highness the Duke of Gloucester, and late Physician to the London Hospital.*

IN examining bodies, it is not unusual to find some variations in the position of the colon. These variations generally occur in its arch, or at the termination of its sigmoid flexure. In the former case the intestine, after quitting the liver, descends for some distance, in more or less of an oblique direction, across the abdomen, making a turn up to the spleen, and then holding its usual course in the left side. This is the most common variety; but sometimes the descent

from the liver goes on even to a little below the anterior and superior spinous process of the left ilium, from whence the gut ascends perpendicularly up to the spleen, and doubles again, to form the commencement of the sigmoid flexure.

When the deviation is at the lower extremity of the sigmoid flexure, the colon, instead of at once descending into the pelvis, to terminate in the rectum, stretches previously some way across the abdomen, in the hypogastric or umbilical region, from whence it doubles back to take its proper course.

Though these varieties of position in the colon must occasionally have been noticed by gentlemen, who are much in the habit of morbid dissection, I consider it important to direct the attention of the profession to the subject, from the circumstance, that M. Esquirol, the able physician to the Salpetriere at Paris, is disposed to consider displacements of the colon (of which he describes several varieties) as being, in some degree, connected with insanity; inasmuch as he has had occasion very frequently to observe them, in examining the bodies of the insane. *

It is particularly gratifying to the medical world, that a man of talents, like M. Esquirol, should employ the rare advantages of his official situation, in investigating, by dissection, the physical characters of insanity: and I have no doubt of the benefits which he will thus be enabled to confer on the profession. I would venture, however, to remark, that in morbid anatomy, it is of the utmost importance to discriminate, accurately, between natural and diseased appearances, and that the evidence which M. Esquirol brings forward, as connecting variations of position in the colon, with derangement of mind, can scarcely be regarded as conclusive, unless the comparative frequency of such occurrences, in subjects not affected with insanity, is carefully appreciated.

M. Esquirol observes, that he is not aware of any author having noticed such displacements of the colon as he describes. It must, therefore, have escaped his observation, that Morgagni gives several examples of diversity in the course of that intestine, most of which are in its transverse portion; † and that such cases were likewise not unknown to Haller ‡ and Sœemmering. § Haller, in

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* Cependant on trouve tres souvent, dans les cadavres des alienés, cet intestine deplacé. Tantot sa direction est oblique, tantot elle est perpendiculaire, en sorte que son extremité gauche se porte derrière le pubis. Quelquefois le colon transverse descend en forme d'arc, au dessous du pubis, et jusque dans la cavité pelvienne, &c.

Observations sur le deplacement du colon transverse dans l'alienation mentale; et suite des observations, &c. par M. Esquirol. Journal General de Medicine Française et Etrangere, ou Recueil Periodique, &c. pour Mai et Juin, 1818.

† Morgagni, De Sedibus et Causis Morborum. Epist. Anat. Med. 4. Art. 16, 26, and 30; 17, 25; 19, 19; 20, 16; 21, 33, and 35; 29, 12; 43, 22, 48, 38; 52, 2: 57, 2; 59, 12; 70, 7; 62, 5.

‡ Haller's Elementa Physiologiæ, Lib. 24, sect. 13, 14, 15.

§ Sœmmering, De Corporis Humani Fabrica, Tom. VI. p. 313.

addition to the varieties which I have mentioned, has seen the colon run between the liver and the stomach, and thus press down the latter. He also describes the arch of that intestine as, in various cases, making two or three perpendicular or transverse doublings, and as sometimes ascending up to the spleen, in an undulating form, from the lower part of the abdomen on the right side, to which place it had descended from the liver.

In none of the instances in which such varieties have come within my own observation, has there been any tendency to aberration of mind. They mostly occurred in the London hospitals, which do not admit persons affected with insanity. Of Morgagni's cases, one only exhibited anything like mental derangement; and Mr Lawrence of Bartholomew's Hospital, who has been for many years surgeon to Bethlem, tells me, that he does not remember having seen any deviation from the usual course of the colon, in the bodies of insane persons whom he has examined, but that he has several times noticed that kind of variety in those who have died sane. I may likewise observe, that Mr Dalrymple of Norwich, who has been surgeon to the Norfolk Lunatic Asylum ever since its establishment in 1814, has not remarked more than one example of any material deviation in the position of the colon, out of 37 cases which he has examined, of persons who have died in that institution.

The late Dr Wells communicated to the "Transactions of the Society for the Improvement of Medical and Chirurgical Knowledge" * the case of a gentleman, who had been long subject to various abdominal complaints, in whom the colon was found to descend perpendicularly from the liver, on the front of the intestines, nearly as far as the pubes, and to return in a parallel direction, to the usual height of the arch, from whence it proceeded to the rectum in its ordinary course. This irregularity, Dr Wells was disposed to regard as the effect of disease; but I am inclined to doubt, whether the deviation described by him, or any of the principal varieties mentioned in this paper, can be properly viewed as the result of anything but natural conformation. It is true, that a descent or displacement of the stomach, from pressure of an enlarged liver, or other neighbouring viscus, will carry the colon along with it, and therefore give to the latter a lower than usual position; and that the same effect may, to a certain degree, be produced, by a simple enlargement of the stomach, and a consequent depression of its greater curvature. But when we consider, that the varieties which I have noticed must generally be connected either with an unusual fulness of the mesocolon, a slight change in the position of that organ, or an augmented length of the intestine itself, and moreover, that in such cases of deviation, the intestine is very generally in a healthy state, there appears to me no sufficient reason for attributing such diversities to the effects of disease.

Carrow Abbey, Norwich, May 20th 1820.

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* Vol. III. p. 158.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. OCTOBER 1820.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Exposition of the Present State of the Profession of Physic in England, and of the Laws enacted for its Government.

IMPRESSED with a deep conviction of the important advantages which result from free discussion, I am induced to trespass once more on your indulgence, while I lay before my professional brethren some further views of the medical profession which appear to me to claim their serious attention. In your Number for January 1818, I endeavoured (and I trust not wholly without success) to deduce from the history and progress of the profession, some of those principles which should guide the legislature in regulating it as a political department. In that essay, I endeavoured to shew the natural connection that subsists

* To prevent the interruption of frequent references, a general one is here given to the following authorities, viz. "The Royal College of Physicians of London, founded and established by law, &c. &c. by Charles Goodale, Doctor in Physic, and Fellow of the said College of Physicians. London, 1684." "The Statutes of the Colledge of Physicians, London, worthy to be perused of all men, but more especially Physicians, Lawyers, Apothecaries, and Surgeons, &c. 1693." "A General View of the Establishment of Physic as a science in England, by the Incorporation of the College of Physicians, London, &c., by Samuel Ferris, M. D. &c. 1795." "A Letter to the Right Honourable Lloyd Lord Kenyon, &c. by Will. Ch. Wells, M. D. London, 1799." "The Law of Physicians, Surgeons, and Apothecaries, &c. London, 1767."

between the several branches of the profession,—to trace their artificial separation to the causes by which a disunion was effected,—and to suggest such arrangements of the general profession as would best adapt its several powers to the wants of society, and direct its combined energies for the public good. These views, however just and incontrovertible, are yet too comprehensive I fear, and too likely to jar with the various discordant interests which this ill-fated profession unhappily comprises, to afford any hope of their being speedily acted on, or indeed of their finding many minds sufficiently free from prejudice, even to admit their truth. In order, then, to open any prospect of amendment, it becomes necessary to pursue the subject more in detail, and, by an exposure of specific grievances, to prepare the way for those temperate reformations which the legislature, when convinced of their necessity, may have no reluctance to apply. In the present tract, I mean to review more closely and circumstantially the department of physic as it exists in England,—to trace the successive enactments by which its legal condition has been regulated,—to shew how these several laws have been administered,—to display the effects of their mal-administration,—to manifest their utter unsuitableness (even if faithfully and conscientiously administered) to those revolutions in the state of medical science and practice, and of society, which the lapse of three centuries has effected,—and, finally, to suggest to those who are most aggrieved by the existing evils, those rational and constitutional courses by which they can bring their peculiar hardships under the cognizance of the legislature, and thus obtain that redress which a British senate will never withhold from well-founded complaints, when temperately urged, and respectfully laid before them.

The first legislative enactment for regulating the profession of physic in England was the 3d Hen. VIII. c. 11, (1511.) This ordains that no person shall practise as a physician or surgeon in London, unless examined and licensed by the Bishop of London, or Dean of St Paul's, "calling to him or them four Doctors of Physic, and for surgery, other expert persons in that faculty," on penalty of five pounds a month; or in the provinces, unless examined and licensed by the Bishop of the diocese, or his vicar-general, either of them "calling to them such expert persons in the said faculties as their discretion shall think convenient," on similar penalties. Considering the period when this law was enacted, and the circumstances to which its provisions were intended to apply, it is difficult to conceive any measure better calculated for accomplishing the objects in view; and it is much to be doubted whether its operation

would not have been, eventually, more salutary and effectual than that of the royal charter, and its confirmatory statutes, by which this law was virtually superseded. At this time there existed no medical school in Britain, and physicians were consequently compelled to resort to the medical schools of the Continent for their professional education. This course of education being necessarily expensive, the supply of well educated physicians was consequently limited, and thus deficiencies of medical aid were felt which could only be supplied by practitioners of inferior quality. The multiplication of these latter, and their notorious incapacity, called forth, with great propriety, the interference of the legislature, whose provision for remedying the evil is marked by discriminating judgment and sound policy. By it the ability of candidates for medical or surgical practice was required to be proved by the examination of regular physicians, or experienced surgeons, under the personal superintendence of a high ecclesiastical dignitary. By this expedient, the competency of the candidate was tried by the best test which the nature of the case admitted, while the integrity of the examiners was ensured by their subordination to an unprofessional, enlightened, and disinterested president, who had full power to shield the candidate from any harshness or unfairness to which professional jealousy, acting on the weakness of humanity, might give rise. In the tenth year of Henry VIII., (1518,) the London College of Physicians was incorporated by royal charter, which received a legislative confirmation by the 14th and 15th Henry VIII. c. 5, (1522.) And again by the 1st Mary, sess. 2, c. 9, (1533.) Charters were subsequently obtained by this college both from James I. and Charles II.; but, as these were never confirmed by statute, they could not supersede the law as established by the statutes of Henry and of Mary.

The charter of Henry VIII., then, with its confirmatory statutes, being the only legal ground by which the authority and privileges of the London College of Physicians are supported, it becomes necessary to scrutinize their provisions somewhat closely, in order to ascertain how far they sanction the several proceedings to which this college has resorted under them. If it shall appear that the college has greatly exceeded the powers confided to it by the legislature,—that it has substituted, for the clear and express provisions of the charter, its own arbitrary decrees, promulgated under the denomination of bye-laws,—that by so doing it has infringed the chartered rights of individuals, and inflicted signal injury on the profession, for whose protection and advancement it was itself created;—if these things shall be proved, (and I trust, ere the present essay closes, to establish

them beyond a doubt,) sufficient ground will surely be shewn for calling on the legislature to inquire into abuses so deeply laid, and so extensively injurious, and to correct them either by reforming the illegal practices of the college, or by placing the profession under some more salutary guidance and control. The charter of Henry VIII. is a simple charter of incorporation, uniting in one community or college (unum corpus et communitas perpetua, *sive* collegium perpetuum) certain individuals named in the charter, together with all others of the same faculty then resident in London. It empowers the college to elect an annual president, to have perpetual succession, and a common seal, to possess lands, &c. granting all such rights and privileges as are usually given to corporate bodies. It decrees that no one shall practise physic in London thenceforward, unless authorized by the college, under penalty of L. 5 for every month during which such unlicensed practice shall be continued. The chief provisions of the 14th and 15th Henry VIII., by which this charter is confirmed and enlarged, consist in extending the elects, or board of examiners, from four to eight, and in ordaining that no one shall practise physic throughout England, unless examined and licensed by the president and elects of the London college; thus virtually revoking the 3d Henry VIII.

It is curious and interesting to remark how tardy was the compliance with this statute in the provinces, for we find that the bishops continued to grant licences in the provinces for above 150 years after, a circular letter having been addressed by the college to the several bishops in their respective dioceses, so late as 1686-7, admonishing them of this power having been exclusively vested in the college by the 14th and 15th Henry VIII.

The obvious interest and meaning of the charter and statute of Henry were, that all men examined and admitted under them should become members of the body corporate. No distinction whatever is specified, or even alluded to, either in the charter or statute, and, consequently, there is no legal ground for confining the privileges of the college to any particular class of physicians, nor for establishing any gradation of its members. On the contrary, it was the bounden duty of the college to examine all men who sought admission; and when proved as to their qualifications and competency, to admit them to a full participation of the rights and privileges conferred by the charter. Far different, however, has been the conduct of the college, for, by means of distinctions and gradations of rank, which have no place in the charter, and for which it gives no sanction whatever, they have effectually narrowed the college so as to exclude

from its pale a large portion of those physicians who ought to partake fully of all its rights and privileges.

Without tracing their progress through the lapse of centuries during which they have exercised powers usurped and illegal, it will suffice to specify the gradation of members, as announced in the printed lists of the present day, in order to shew how unsupported such complicated arrangements are by the simple provisions of the incorporating charter.

The list, as at present published, comprises "Fellows," "Candidates," "Inceptor Candidates," "Licentiates," and "Extra Licentiates,"—of which several classes it is necessary to specify the distinctions. The "Fellows" are in fact the body corporate, engrossing to themselves, by a palpable usurpation, the whole power and authority of the college. To this rank none are now elected save medical graduates of Oxford or Cambridge; a limitation which rests on no authority but that of the bye-laws of the college, and which directly contravenes the express provisions of the charter. "Candidates" are those who are subjected to a certain probation previously to being elected Fellows. "Inceptor Candidates" are, as the denomination implies, in an earlier stage of their noviciate. "Licentiates" are merely permitted to practise, being deemed unworthy of becoming members of the corporation from not having graduated at Oxford or Cambridge, from which circumstance alone their ineligibility is inferred, for they are not even suffered to evince their learning and competency by any tests, all examination for the fellowship being absolutely refused, even though the college have the power of conducting it in any manner, and with any degree of severity they think proper. The "Extra Licentiates" receive permission to practise in the provinces, but are prohibited from coming within seven miles of London.

In addition to these several ranks, that of "Honorary Fellows" was once created; but it was soon suppressed, in consequence, as the college records themselves declare, of the disputes within the college, to which this attempt to enlarge its boundaries gave rise.

A more particular description of these several ranks may here be desirable, as more clearly explaining their nature, and thereby elucidating better the policy by which the college has been actuated in ordaining them. The following are taken from "A Short Account of the Institution and Nature of the Colledge of Physicians of London," which appears to have been published by the college in their own vindication, against some alleged charges so early as 1688, and which is quoted in another book published in 1693, entitled, The Statutes of the Colledge

of Physicians, &c. The quotation is as follows: "The College of Physicians in London, being constituted of men of generous and liberal education, and instituted for public benefit, *out of which no person of sufficient capacity and learning can be excluded*, consists of a President, Fellows, Candidates, Honorary Fellows, and Licentiates. 1. Fellows are Doctors of Physic chosen out of the candidates, who have been always limited to a certain number, (formerly forty,) and are now confined to the number of fourscore, by his present Majesty's gracious charter. 2. Candidates must be Doctors in Physic, admitted to that degree in one of our Universities, must not be foreigners, and ought to have practised four years before they are admitted into that order. 3. Honorary Fellows are such Doctors of Physic as, by reason of their being foreigners, or having taken their degree in some university beyond seas, are not incorporated in either of ours; or, for some reason, (having not been candidates,) are not of the number of those who have votes in the affairs of the college. 4. Licentiates are such other *persons* skilled in physic who, by reason of their being foreigners, or their not being admitted doctors in one of our universities, or for their not being eminently learned, or by reason of their too great youth, or such like causes, are not capable to be elected into the number of candidates, yet may, notwithstanding, be serviceable to the public in taking care of the health of the king's subjects, *at least in some diseases.*" * Will it be credited that this last degraded class only is open to the great body of physicians, who, however highly educated, or abounding in medical knowledge, obtained by assiduous study, in the most eminent schools of physic, are yet pronounced unworthy of admission into the college, nor from any incompetency being proved, but from their not being medical graduates of universities in which no competent schools of physic are to be found! A sense of the indecency of such exclusion seems for a moment to have influenced the college in creating a class of Honorary Fellows; but the bye-law ordaining it seems to have speedily sunk into disuse, for in 1720 we find, that, at a meeting of the college, "it was proposed to consider

* The bye-law of the college conveys the indignity offered to the Licentiates still more strongly. "De permissis, sive Licentiatis ad praxin. Quoniam complures in hac civitate medicinam faciunt, quos *inidoneos omnino* censemus ut in numerum sociorum aut candidatorum adoptentur, vel quod natione non sint Britanni, vel doctoratus gradum non adepti fuerint, *vel non satis docti*, aut ætate et gravitate provecti sint, vel alias consimiles ob causas, et tamen rei publicæ inservire et salute hominum prodesse possint, *saltem in nonnullis curationibus*; de his ordinamus et statuimus, ut post examinationes debitas, et approbationem præsidis et censorum permittantur ad praxin, *quamdiu se bene gesserint.*"

the statute relating to Honorary Fellows, in order to admit such as have had a regular education in foreign universities into the order, and distinguish them from the Licentiates who had no degrees;" which subject was referred to the president and censors for their report. In June 1721, a statute, or bye-law, to this effect, was read a first time, and agreed to *nem. con.* In September 1721, it was read a second time, approved, and had the seal of the college affixed it. How such a statute could give rise to contentions it is not easy to conceive. Wanton arrogance alone could object to this trivial distinction being conferred on men regularly educated, and already possessed of university honours; for it is to be remarked, that it was purely honorary, no vote nor any power of government being attached. Yet, in December 1725, on the very 25th, (if my authority be correct,) a day one should think calculated to inspire kindlier feelings, we find the bye-law repealed on the following proposition of the president: "The president, *having taken notice of the disputes that had been occasioned by the statute relating to Honorary Fellows*, did, *for preventing further disputes*, propose, in the following manner, That the statute relating to Honorary Fellows should be now repealed a first time, which was unanimously agreed to." The proposal for repeal was made a second time in January 1726, and again in the April following, when the repeal was rendered complete. These statements may serve to shew the principles on which the administration of this college has been conducted from the earliest periods. My object in entering into such details now is, not to criminate the college, who may have been influenced by erroneous judgments rather than corrupt principles, and who might possibly have considered themselves as really benefiting the community by the assumed exercise of authorities which their charter did not confer; but for the purpose of substantiating the fact of such exercise of power being in direct contravention of the plan and obvious provisions of the charter.

For the variety of distinctions that have been specified, the college can shew no authority whatever save that of their own bye-laws. Now, it is indisputable that the general power of framing bye-laws under any charter, is given always in subserviency to the provisions of the charter itself, and that such bye-laws can in nowise contravene the charter without a violation of law.

Yet, that the bye-laws by which the present organization of the London college has been accomplished do directly contravene the charter of Henry VIII., by denying admission, or even the opportunity of examination, to those to whom the charter

explicitly gives the right, is too clear, from the few facts already stated, to need the support of any elaborate argumentation. Lest it should be supposed that this charge of illegality in their proceeding is generated by spleen, or the grounds of it raked out among musty records and obsolete usages, I shall here briefly state some opinions respecting their bye-laws, which have been pronounced from time to time by high legal authorities, and even by numbers of their own fellows. And, first, as an illustration of the policy of the college, and of the expedients by which they substituted their own arbitrary dictation for the law of the land, I shall report an extraordinary case which was published near 150 years ago.

It is entitled "The Base, Dishonourable, and Illegal Dealing of the College of Physicians, London, with a Doctor of Physic admitted to that degree in one of our own universities, who in July, August, and September 1683, presented himself to the President and Censors to be examined,"—"and was by them examined three several times in Latine, according to the form of the statutes in that case provided; and was approved, and had leave given by the President and Censors after examination to visit the Fellows,—and did accordingly visit all the Fellows, in order to be admitted Licentiate; and at the same time was requested and desired by them in behalf of the whole college, and withal complemented, how extremely he should oblidge and highly honour that society, if he would be pleased to suspend his admission as Licentiate, (and which they confest they could not deny,) till such time as he had quitted his employment in pharmacy, and compleated his degree (being then batchelor of physic) of Doctor in the university; and that then without any farther trouble of visiting the Fellows, or other examinations, and for the very same fees, by vertue of these examinations standing registered in their books, he might be admitted a *candidate*, the more honourable station in their society," &c. "On these considerations he submitted to and granted their request. Four years now elapsed, and by their advice, having regularly completed his degree of Doctor in Physic, performing all exercises required by the University of Cambridge, as his deploma to them shows, and the register in the university will sufficiently testify; he applied himself to the then president of the college in the year 1687, for his admission, (as formerly directed and promised by the president and censors, in behalf of the whole college, in the year 1683,) from whom he had a courteous reception and acknowledgement, that it was all the reason and justice in the world that he should have his admission; besides, saith he, we cannot deny it him, and then advised him to wait till next college-day,

and there give his attendance; which he accordingly did, and was then deferred to another opportunity, by reason the college was then engaged in private business, and no public business would at that time be entered on; he attended again and again, and was still deferred. During these delays the private business is effected, and the new statutes of exclusion are made and promulgated in the theatre, September 28, 1687. After these new statutes were made, he was advised to wait on the President and Censors on a private college-day, to demand his admission, and did accordingly; and had for answer from them their new statutes, which Mr Register would needs read: To this he answered, these statutes cannot relate to my case, being made above four years since the desires, requests, and directions of this Board, in behalf of the whole college, were made to me, to suspend my admission till I had completed my degree of doctor; besides, I have lately attended several times on the college for my admission in July, August, and September 1687, since I was Doctor in Physic, and before these statutes were made and promulgated. However, so it was, that unless he would abjure the company of apothecaries, (as well as he had by their advice and directions quitted his employment in pharmacy in the year 1684,) and bring it attested under the hand, or by the person of a public notary, that he had relinquished and abjured that society, he should not be admitted."

I have been tempted to give this statement at full length, as no abridgment could do justice to it. The conduct pursued by the college I shall not attempt to characterize,—observing that I seek in vain to recognise that "sanctuary of honour and good faith," which this college was pronounced to be by the late Lord Kenyon, when, on the ground of this reputed honour and good faith, his Lordship thought fit to refuse Dr Stanger's application to the Court of King's Bench for a mandamus, to admit him to examination for the fellowship. To this refusal I shall have occasion to advert by and by; in the mean time, I shall only remark on the case just detailed,—that however opinions may differ on the abstract propriety of the exclusions pronounced by the college bye-law, no doubt can be entertained of their being contrary to law.

These proceedings of the college were probably not carried without much internal contention; for, at this time we find the sentiments of the fellows so divided, that, in 1702, thirteen fellows of the college, among whom were Sir Richard Blackmore, Dr Tancred Robinson, Dr Tyson, &c. remonstrated with the college upon the rigour and illiberality of their bye-laws. They accused them "by narrowing their bottom, of

keeping many worthy practitioners of physic in the city from entering into their society, whereby *their debts increased without prospect of remedy*, and their body diminished without hope of repair." How determined must have been the spirit of exclusion, which could thus sacrifice even the prosperity of the corporation, and submit to pecuniary embarrassments and increasing debts, rather than consent to open the college doors, which usurpation alone had closed! There is some reason to believe that these embarrassments were felt, and that they gave rise to the expedient of creating "honorary fellows," as a financial resource, the fee of admission as an honorary fellow being fixed at "one hundred pounds of lawful money of Great Britain, besides the usual payments to the president, censors, treasurer, register, and beadle, due according to the statutes, and the necessary expence for a diploma." And here I may curiorily remark, on the extreme hazard of leaving the admission fees of any corporate body unlimited, for the power of extending these indefinitely, enables the corporation virtually to abrogate all the rights of the public to admission, by rendering this unattainable to moderate means, and subjects their cupidity to a temptation which human virtue is not always able to resist.

I proceed now to those legal opinions by which the proceedings of this college have been censured, and their bye-laws pronounced illegal. In 1688 the college was admonished by Lord Chancellor Jeffries. A little prior to the year 1700, a petition was preferred to the Lord Chancellor Somers, and to the judges by several fellows of the college, complaining, "that a prevailing party of the college had combined together in *a fraudulent and surreptitious* manner, and made illegal statutes and bye-laws, and annexed rigorous penalties," &c. In 1768 they were cautioned by Lord Mansfield "against narrowing their grounds of admission so much, that if even a Boerhaave should be resident here, he could not be admitted into their fellowship."

And his lordship said upon the same occasion, "I would recommend it to the college, to take the best advice in reviewing their statutes, and to attend to the design and intention of the Crown and Parliament in their institution. I see a source of great dispute and litigation in them as they now stand; there has not, as it should seem, been due consideration had of the charter, or legal advice taken in forming them;" a hint which he repeated in 1771. The opinions of Lord Mansfield on the illegality of the several gradations and distinctions introduced by the college, are unequivocally expressed in the following declaration: "If it be true," said his lordship, "that there are

some among the licentiates unfit to be received into any society, it is a breach of trust in the college to license persons altogether unfit. It has been said that there are many among the licentiates who would do honour to the college, or any society of which they should be members, by their skill and learning, as well as other valuable and amiable qualities, and that the college themselves, as well as every other body else, are sensible that this is in fact true and undeniable. If this be so, how can any bye-laws which exclude the possibility of admitting such persons into the college, stand with the trust reposed in them, of admitting *all* who are fit? If their bye-laws interfere with their exercising their own judgment, or prevent them from receiving into their body persons known or thought by them to be really fit and qualified, such bye-laws require alteration." And here it may not be unsuitable to notice the danger of leaving corporate bodies the sole judges of the legality of their own bye-laws. The consistency of a bye-law with the paramount authority of a charter or statute, is a question which can oftentimes be decided only by men practised in the subtleties of legal disquisition. Hence, corporations may oftentimes act illegally in the enactment of their bye-laws, from misconception or inadvertence alone, without any corrupt or sinister design. And so liable are men's minds to be warped by their feelings or interests unconsciously to themselves, that I have little doubt of all such abuses originating in an error of judgment. But, again, the tendency of all corporate authorities to assume excess of power is notorious, and requires to be watched with jealous vigilance. It is important, too, to prevent abuses of this kind, which, when they once take place, give rise to extensive injury, the redress of individuals being nearly hopeless, in consequence of that cautious, and no doubt prudent reserve, with which our courts of law receive the complaints of individuals against corporate encroachments.

For these several reasons, I have no doubt that it would prove a salutary and necessary protection to the public, if every bye-law of a corporation which was intended to have continued operation, or which could, in any way, affect the general policy, were, previously to its taking effect, submitted to some high law officer of the Crown, in order to judge of its subserviency to the charter, and sanctioned by his express approval."

In 1768, Lord Mansfield said, "I think that every person of proper education, requisite learning and skill, and possessed of all other due qualifications, is entitled to have a licence; and I think that he ought, if he desires it, to be admitted into the college."

"The power of examining, and of admitting after examination, was not an arbitrary power, but a power coupled with a trust. They are bound to admit every person, whom, upon examination, they think fit to be admitted within the description of the charter, and the act of parliament which confirms it. The person who comes within that description has a right to be admitted into the fellowship. He has a claim to several exemptions, privileges, and advantages attendant upon admission into the fellowship; and not only the candidate himself, if found fit, has a personal right, but the public has also a right to his services, and that not only as a physician, but as a censor, an elect, as an officer in the offices to which he will, upon admission, become eligible."

It has been further remarked by Lord Mansfield, "That licences probably took their rise from that *illegal* bye-law now at an end, which restrained the number of fellows to twenty. This was arbitrary and unjustifiable; they were obliged to admit all such as came within the terms of the charter."

And again, "There can be little doubt that the college are obliged, in conformity to the trust and confidence reposed in them by the Crown and the public, to admit all that are fit, and reject all that are unfit. But their conduct in the exercise of the trust thus committed to them ought to be fair, candid, and unprejudiced, not arbitrary, capricious, or biassed, much less warped by prejudice or personal dislike."

These various opinions, so unequivocally given by the highest legal authority that can be adduced, are surely more than enough to determine the illegality of the college proceedings. The opinions of Judge Aston, however, are too forcible and too directly in point to be omitted. His words are, "With all the inspection I have used, from the first charter to Queen Mary, I cannot find any distinction made between the members of this corporation. How it crept in afterwards might be difficult to account for, but the granting temporary and partial licences will not in my opinion impugn the ancient usage; for we see in different periods a most manifest alteration, and the words quite different in the manner of admission, until about a hundred years ago, they arbitrarily reduced it to a certainty which has since obtained, which, questionless, *owes its foundation to an illegal act of the college itself*, by arrogating a power to admit or refuse, at their own free will. Whereas, they are obliged to admit persons who have proved their abilities, it being for the good of the community." The right of prescription, founded on the antiquity of their own bye-laws, has been much insisted on by the college. This is effectually nullified by Judge

Yates, who observes, "That usage only applies where the construction is doubtful; here the construction is *not* doubtful; if it were, then, indeed, usage for two hundred years might have weight."

These authorities will shew, at least, that the charge of illegality brought against the college procedures is not without foundation. Yet, notwithstanding the reprehension so forcibly expressed, the college still persist in their system of exclusion, confining admission to their fellowship to the medical graduates of Oxford and Cambridge, and arranging all others according to their own arbitrary classification, but excluding them wholly from the pale of the college. It is a matter of notoriety that those universities whose graduates are so peculiarly and exclusively favoured by the London College have never been celebrated as schools of physic, and that their graduates are indebted, for all their essential acquirements, to the medical schools of other universities. In former times, such schools were only to be found in foreign countries, and to them British physicians were accustomed to resort for medical knowledge and degrees. In latter times, several schools of high excellence have been founded in Britain, and in them the great body of British physicians, pursuing naturally and justifiably those courses of education which were most instructive and complete, have long been accustomed to seek those genuine qualifications which were to fit them for a faithful discharge of their professional duties. Yet, by an incongruity which has no parallel, such physicians are punished for pursuing their education in those schools where alone adequate instruction is afforded, by actual exclusion from that corporate body, which was formed for their express protection and support. And to the credit of this numerous and truly respectable body is it, that they have so pursued their studies, and thereby sacrificed personal aggrandisement and private interest to the conscientious attainment of professional competency; for what but a conscientious regard to the real duties of professional life, could lead men to prefer Edinburgh and Glasgow degrees in physic, which require years of resident study, and a scrutinizing examination in medical science, ere degrees are granted, to that of Oxford or Cambridge, in which the courses of medical instruction and examination are little more than nominal, while, by pursuing the former, they lose all hope of attaining those honours, rights, and privileges of the London College, which they who follow the latter exclusively enjoy, and are, moreover, subjected to the insulting arrogance of the college bye-law, which proclaims the inferiority of licentiates to fellows. That such exclusive preference of Oxford and

Cambridge graduates on the part of the college is illegal, and contrary both to the spirit and letter of their charter, admits of no dispute; and it can as little be doubted that it is greatly injurious to all the best interests of medical science. How a system of procedure so illegal and so subversive of the very purposes for which the college was created, could have been suffered to continue for a period of three hundred years, may well excite surprise. It has not been unopposed, however, though unhappily the opposition has been so injudiciously conducted, or so weakly supported, as oftentimes to have yielded a triumph to the college, where defeat, if not reproach, was merited. And here it may not be unmeet to represent the general unfitness of the medical character for engaging in or sustaining contests of this kind. The very nature of his studies makes the student of medicine more fitted for the privacy of his own chamber than for contending in courts of law. His funds, too, are seldom so ample as to allow of his appropriating any part to costly and expensive litigation. The disadvantages under which an individual must ever lie, in contending with a chartered company, are sufficiently formidable; but to the individual physician they are appalling, as he can only pursue his rights at the inevitable sacrifice of time, money, and professional establishment. This latter I hesitate not to include, for it is only in early life that buoyancy of mind is possessed, sufficient to incite men to engage in so arduous a struggle, and what young man, entering on his professional career, and unsupported by established reputation, could hope to bear up under the accumulated obloquy with which so powerful a host of opponents would be sure to overwhelm him? So great, indeed, are the discouragements to entering into this kind of contest, and so unfitted the parties aggrieved for combating in it, that, far from wondering at the general supineness with which the usurpations of the college have been acquiesced in, I am disposed rather to admire that any have been found bold enough to question their authority or impugn their alleged powers.

Can we imagine otherwise, than that the college have reckoned on this supineness and passive endurance, else could they have pertinaciously continued their system of usurpation after the repeated admonitions which they had received from the very bench? Yet, hopeless as contention has been on the part of those opposed to the college, so sensibly have grievances been felt, that the history of the college presents an almost uninterrupted series of litigation. A recapitulation of all the suits in which they have been engaged would be tedious, and greatly exceed my present limits. It would, moreover, serve rather to

perplex than elucidate the subject at issue, as a large proportion of these suits, though arising from sensible grievances, have yet been confined to minor points, on which the legal powers of the college were indisputable, and which it is not a little strange that the parties were not prevented by their legal advisers from contesting. I shall confine myself then to those few instances in which the power of the college to refuse admission to their fellowship, or to deny examination to candidates, has been disputed in courts of law.

In 1771, Dr Archer and Dr Fothergill claimed admission as fellows. But they were misguided in demanding it on a wrong ground, namely, that of their licence, which ground being deemed untenable, they were consequently defeated.

The decision in this case, however, gives no support to the legality of the college proceedings, for the judges waved all consideration of a question which did not come formally before them, declaring that, "be the bye-law good or bad, the right of admission was claimed under it," and that "it would be a most unreasonable thing to accept this licence under the bye-law, and to treat those bye-laws as null and void; to turn the licence so accepted against the persons from whom it was accepted, and to set it up as the foundation of a right to be admitted under the charter."

The main question was at length brought to issue by Dr Stanger, who, about the year 1796, having applied to the college to be examined for admission into the order of candidates, and having been by them refused, on the ground of some prohibitory bye-law, moved the Court of King's Bench for a mandamus to compel the college to admit him to examination. The court granted a rule, in course, for the college to shew cause why a mandamus should not issue; on which affidavits were made by the president of the college, and by their attorney, justifying the refusal. The grounds of justification were, that, by one of their bye-laws, no person could be admitted into the order of candidates except a doctor in medicine of Oxford or Cambridge, and that Dr Stanger was not a graduate of either university; and that there were two bye-laws of the college by which licentiates of certain descriptions might be received into the fellowship, without their previously entering into the order of candidates. The bye-law which restricted admission into the order of candidates to the graduates of Oxford and Cambridge, had been decided by Lord Mansfield to be bad; and, according to the confession of the counsel of the college, the two bye-laws which allowed licentiates to enter the fellowship, had been framed in consequence of the censure passed by that judge up-

on the former system of admission, and of his recommendation that a more liberal one should be adopted. One of these bye-laws provides, that the president of the college may, once in two years, propose a licentiate of ten years standing, to be admitted into the college without examination; the other declares, that licentiates of seven years standing, and who completed the 36th year of their age, might be admitted into the college, should they be found fit upon examination. This latter requires that the licentiate should be proposed by a fellow; and on this ground the question was argued by Mr Erskine, who represented that any licentiate of a particular description, if proposed by a fellow, would be admitted to examination; and that, if a licentiate could not find one fellow willing to propose him, he must be personally so objectionable as to be utterly unfit for admission into the college, and such an one as the court ought not to force upon them by a mandamus. This, at least, is the tenor of Mr Erskine's pleadings. Some informality having been detected in the mode of Dr Stanger's application to the college, the pleadings ceased, and the rule was discharged. After renewing his application to the college, and again moving the court for a mandamus, a new rule was granted, and the question brought to trial again in May 1797; when, on a repetition of the pleadings formerly urged by Mr Erskine, the mandamus was refused on the ground of the interference of the court being unnecessary, inasmuch as the way was sufficiently open for admission under the college bye-law. Lord Kenyon clearly admitted that the college were bound to examine, but, deeming the college "the sanctuary of honour and good faith," as his Lordship was pleased to term them, he thought the application would be as effectual, if made to them under the provisions of their own bye-law, as if a mandamus were to issue. The sincerity of the college in respect of this bye-law having been doubted, and it having been believed by many licentiates, previously to the decision in Dr Stanger's case, that the college never meant to admit any licentiate to examination; Dr William Charles Wells, a licentiate of the college, resolved to put their sincerity to the test, by applying for examination under the bye-law. Accordingly, in September 1797, a motion was made at the college by Dr David Pitcairn, and seconded by Dr Mathew Baillie, that Dr Wells should be admitted to examination for the fellowship. Although Mr Erskine had declared, in the case of Dr Stanger, his firm conviction that if Dr Stanger had applied to the college for examination under the bye-law, he would have been admitted, and though the alleged certainty of such admission to examination, on proper application, was the ground on which

Lord Kenyon and the other Judges refused the mandamus, yet, on Dr Wells's application, the college declined acting on the bye-law, considering it *a dormant bye-law*, and *that the propriety of reviving it required much serious consideration.* Yet this bye-law, according to the declaration of their counsel in the Court of King's Bench, had been framed in 1778, with the best legal advice this country could afford, for the express purpose of removing the blame which had been thrown upon them by Lord Mansfield; it had been brought to their recollection in 1809, by an application under it from Dr Sims, and had been twice sworn to before the Court of King's Bench, in the case of Dr Stanger, in 1796 and 1797. On such grounds was Dr Wells's application opposed, and Dr Pitcairn's motion was got rid of by the previous question, which was carried by a majority of three, thirteen voting for, and ten against it.

As the motion of Dr Pitcairn was not directly negatived, Dr Wells resolved on having it renewed, lest the college should, on any future occasion, attempt to evade the just interpretation of their conduct, by alleging that this motion was only suspended, and not actually rejected. Dr Pitcairn, accordingly, undertook to repeat his former motion in the following September, before which time it could not be made, for the bye-law enacts, that such proposals shall only be made on one particular day of the year. During the interval, the college proceeded to enact another bye-law, by which, whoever meant to propose a Licentiate for examination, was required to give notice of his intention at a preceding quarterly meeting of the college.

In compliance with this bye-law, Dr Pitcairn attended the college meeting in June, and gave notice of his intention to propose Dr Wells for examination in September. Being unable to attend the September meeting from severe illness, he deputed Dr Baillie to make the proposition. This, however, was resisted by the college, or rather by the prevailing party, on the plea, that the new bye-law required the proposal to be made by the very person who gave the notice; and a question being put, whether the delegation of Dr Baillie should be allowed, it was negatived by a majority of three, twelve voting against, and nine in favour of it. On this, another attempt was made to bring the question forward, by reverting to Dr Pitcairn's former motion, which had only been indirectly got rid of; but on the minutes of the former meeting of September 1797 being read, it was declared that Dr Pitcairn's motion had then been finally disposed of and rejected.

Thus the evidences of the policy pursued by the college are rendered complete, and the views with which they have framed

their bye-laws are so manifest, that no one can fail to penetrate their real designs, or hesitate to pronounce on the "honour and good faith" with which their bye-laws are administered.

From the preceding statements, then, it is quite clear that the college have no disposition to relinquish their usurped power, which they have so long despotically exercised,—and also, that the aggrieved parties can expect no redress by appealing to courts of law. It only remains for them, then, to submit their hardships respectively to the consideration of the Legislature, and solicit whatever relief the wisdom of Parliament may deem them entitled to. On viewing the power and influence of the corporate body whose conduct is arraigned,—the extent of the abuses which prevail in the corporation,—the length of time during which they have obtained,—and the pertinacity with which they are continued, it must be clear to every sound and reflecting mind, that no alternative remains but an appeal to the Legislature.

But another view remains to be taken of this subject, of no less importance than that which has just been discussed; for though a just and liberal exercise of the powers entrusted to the college, and a due regard to the principle on which their charter was granted, would have obviated much of the injury which their usurpation has inflicted, yet so vast have been the changes which a lapse of three centuries has effected, not only in the state of the science and profession of physic, but also in that of society in general, that there can be little difficulty in demonstrating the utter unsuitableness of the existing laws, even if faithfully administered, to the present state of things, or their inadequacy to accomplish those purposes for which they were designed. When the existing laws were framed there was no medical school in Britain. Physicians were invariably educated at the continental schools. Many were engaged in the practice of physic who were not physicians; and many, no doubt, assumed the denomination who were not entitled to it. The ignorance against which it became necessary for the Legislature to provide cannot be better displayed than by referring to the preamble of the 3d Henry VIII., which states, that, "Forasmuch as the science and cunning of physic and surgery (to the perfect knowledge whereof be requisite both great learning and ripe experience) is daily, within this realm, exercised by a great multitude of ignorant persons, of whom the greater part have no manner of insight in the same, nor in any other kind of learning; some also can no letters on the book, so far forth, that common artificers, as smiths, weavers, and women, boldly and accustomably take upon them great cures and things of great difficulty, in

which they partly use sorcery and witchcraft, partly apply such medicines to the disease as be noious and nothing meet, therefore, to the high displeasure of God, great infamy to the faculty, and the grievous hurt, damage, and destruction of many of the king's liege people, most especially them that cannot discern the uncunning from the cunning, be it therefore," &c. For such evils the remedy provided by this statute was direct and appropriate. Examination was the only test by which the competency of practitioners could be tried, and this was consigned to the only men who were at the time qualified for conducting it. Even when the power of examination was transferred by the 14th and 15th Henry VIII. to the London College, the obvious objection to entrusting men engaged in a lucrative employment, with the power of trying those who were to become their own competitors, and thus subjecting them to temptations calculated to warp their integrity, might, perhaps, be considered as overruled by necessity, and the want of any other suitable test. But since that period, medical education has been brought to such perfection in Britain, and the competency of medical graduates is so fully attested by the universities at which they obtain their degrees, that the additional scrutiny of the London College is as needless in reality, as it is vexatious and insulting in that exercise of it to which the college resort. The great object of legislation in regulating this or any other department of the profession, is to ensure to the public the due qualification of those who profess the practice of the art, and to protect the latter in the free exercise of their profession.

The education required, then, should be such as the improved state of medical science demands, regard being had to the necessity of providing the public with a certain supply of medical aid, and of not abridging this too much by enjoining qualifications too high or too costly, the effect of which must ever be the same as that of all monopolies, namely, that of diminishing the competition, which ought to exist in all lawful trade, and increasing to an indefinite extent the contraband; nor can there be any doubt that the restrictive policy adopted by the London College has been the means of spreading widely the evils of quackery, and that the perverted exercise of their powers has thus tended to extend and perpetuate what these powers were given to correct and prevent. That the medical education of Edinburgh and Glasgow Universities accomplish every thing that elementary instruction can supply, is a truth too obvious, too well established, and too universally allowed, to be disputed.

The degrees granted, then, by these universities, which are only obtained by a definite course of resident study, and the

test of actual examination, openly conducted in the halls of the universities, afford as complete tests of competency as any examination which the London College can institute. To superadd their examination to those by which the medical degrees of Edinburgh and Glasgow are obtained, is to harass individuals for no good end, and to subject them to trials which, while utterly superfluous, may chance too to be decided on far different grounds than the real merits of the candidate. That some central association should exist for enrolling and legalizing, as practitioners, the several physicians supplied by the universities seems highly expedient; but the functions of such an association should be confined to examining and verifying the original degree, the proof of which should entitle the person possessing it to enrolment, to the right of freely exercising his profession in any part of the British dominions, and to a full participation in the rights and privileges conferred by the charter of association. It would, perhaps, be right, so long as certain universities think proper, to confer degrees in physic, without subjecting the candidates to the test of examination, founding their testimonials on private certificates *only*, to limit the right of admission into the medical college or association to those graduates whose degrees had been obtained by full trials, requiring those whose degrees were obtained by special grace, or on private testimonials of ability, to undergo before the college an examination corresponding to what the universities require. This would be a just and suitable expedient for equalizing those different graduates, and would tend directly to bring the summary modes of obtaining degrees into disuse, by providing, that such graduates could not wholly evade examination, while it would leave such degrees still within the reach of those to whom it may be desirable, in advanced life, to become possessed of such titular distinction. At present, the Edinburgh graduate, who has been tried by ample tests, and the St Andrews graduate, who may not have been subjected to any, are equally examined by the London College, on applying for a licence. This surely is a direct inducement to individuals to prefer the cheap, convenient, and summary process by which a St Andrews degree is obtained, to the arduous studies and strict examinations of Edinburgh. Were such a distinction as I have proposed adopted, the abuses of Aberdeen and St Andrews degrees in physic, which have been so long a subject of complaint, would be rendered harmless, while any advantage that can be considered to arise from them would still be preserved. It may illustrate this part of the subject to shew what those tests are by which an Edinburgh degree in physic is

obtained, and what are the examinations enjoined by the London College.

The University of Edinburgh requires, that every candidate applying for medical honours shall have been a student of medicine in some university for three years, and shall have regularly attended a course of lectures by each of the six medical professors, as also clinical lectures and hospital practice; that he shall, on proof of this, be examined five several times as to his attainments in medical science; shall publish an inaugural dissertation on some subject connected with medicine, and produce such other written exercises as are enjoined by the Senatus Academicus, previously to obtaining his medical degree. His first examination is a general one by the whole facultas medica, (which consists of the six medical professors,) and is the principal and most important of the whole. The second is of a similar nature, but is by two professors only, and for a shorter time. In the third, the candidate defends two commentaries written by him on two given subjects, the one an aphorism of Hippocrates, the other a medical question. In the fourth, he defends similar commentaries on two histories of diseases, the one an acute disease, the other chronic; and in the fifth and last, which is a public one in the hall of the university, he defends the opinions advanced in his published thesis. All his examinations and exercises are in the Latin language. The sufficiency of these tests, as proofs of competency, cannot be disputed; as far as I am aware, they greatly exceed in strictness the trials to which the members of other professions are subjected. Yet an Edinburgh graduate, on applying for the licence of the London College, is subjected by them to the same trials, as if he had never previously passed a medical examination. Can this be necessary,—is it just,—or is it calculated to answer any one good purpose? But the hardship ends not here; for if a licentiate thus qualified should aspire to the fellowship of the college, and, by signal favour, be admitted to examination, he must submit to trials still more tedious, harassing, and vexatious. The course of procedure in this last trial is worthy of attention. In the first place, the college requires that a licentiate shall be of seven years standing, and upwards of thirty-six years of age, ere he can be proposed for examination; the proposal must then be made on one particular day of the year, and the fellow proposing must have personally attended at a previous quarterly meeting, and notified his intention to make such proposal. The proposal is then subjected to a secret ballot, by which it is decided, whether an examination shall be granted. Should the decision be favourable, his first examination is fixed to take place in three months after; and the second and

third follow at similar intervals, a decision being made after each by the majority, as to whether any other shall be allowed, or the candidate then rejected. In this way is he "tortured for nine months with doubt and anxiety," respecting an event in which all his interests, and probably those of his family, are involved; for though it be optional for a licentiate to subject himself to this trial, yet having done so, its result, if unfavourable, must produce the most baneful consequences to his future career. Surely it is time for the Legislature to interpose its authority, and rescue a much aggrieved and highly meritorious branch of the profession from the despotism by which it has been too long oppressed, and to give to it a constitution more suited to its wants,—more consonant to its dignity,—more just to its merits,—and more adapted for calling forth its energies in the service of the public. That the Legislature have every disposition to perform this duty when duly required, I faithfully believe. But they cannot be expected to legislate gratuitously, or without grievances being alleged, or redress called for. If what has been represented in the foregoing pages be founded in truth, there are grievances of considerable extent, and affecting large numbers. But if none of these come forward to declare the evils by which they are oppressed, the Legislature cannot surely be blamed, if they regard all occasional complaints as visionary and unfounded. If a competent portion of the licentiates of the college, and of the unlicensed physicians practising in the provinces, will only unite in petitioning Parliament for an inquiry into the present state of the profession, I am firmly persuaded that such inquiry would not be withheld. So vast and so deeply rooted are the existing evils, that no power but that of Parliament can be adequate to extirpate or correct them. To pronounce what reformation should take place, would be to prejudge the question, and to anticipate the results of a parliamentary investigation. And, indeed, I cannot help thinking, that former attempts at reforming the profession have failed of success, principally from error being committed in this respect, and in bringing forward specific plans, founded on partial inquiries, rather than submitting their grievances respectfully to the Legislature, and soliciting that general inquiry into the circumstances of the whole profession, which can alone lead to just conclusions. If a parliamentary inquiry were once obtained, (and no investigation of less authority would be equal to the task,) such full information would be elicited on every part of the subject, as could not fail to open clear and correct views of the amendments required.

That some amendment is necessary, is too glaring to be denied. In my former essay, I attempted to establish some of

the principles which should guide the Legislature in regulating the general profession. In the present tract, I have endeavoured to trace to their source the evils to which the department of physic has been so long subjected.

It remains, as an essential part of my present inquiry, to correct an error that seems to prevail very extensively among the unlicensed physicians of England, respecting the legality of their practice; and as this error has at present the support of legal opinion formally taken and deliberately pronounced, it becomes necessary to scrutinize with some minuteness the grounds of this opinion, in order to confute it.

By the charter of the London College, and the statute 14th and 15th Henry VIII., no physicians whatever are suffered to practise in London, unless licensed by the college, penalties being specifically annexed to a violation of the prohibitory clause. By the 3d Henry VIII., c. 11, § 2, it is ordained, that no person shall practise physic in the provinces, unless licensed by the Bishop of the Diocese, &c. on certain specified penalties. The 14th and 15th Henry VIII., c. 5, § 3, repeats the prohibition, but changes the examiners, and transfers the licensing power from the Bishop of the Diocese to the London College. These statutes are unrepealed, and consequently in full force whenever they are called into operation. It has been shewn how the disuse into which they have fallen, as far as regards their operation in the provinces, has misled physicians very generally into overlooking their existence. But a direct persuasion of their nullity has been diffused among the profession, by a legal opinion of high authority expressly taken on the subject. It will be recollected, that certain attempts, originating with Dr Harrison of Horncastle, in Lincolnshire, were made some years back, to effect a reformation of the profession. At this time it became desirable to ascertain the real state of the law on the subject, and the extent of power legally possessed by the London College. A case was accordingly prepared with considerable care, and submitted to the late Sergeant Williams for his opinion. The queries which relate to the control of the college over the general practice of the kingdom are as follows:—"Have the London College of Physicians any real or effective power under the 14th and 15th Henry VIII. of controlling generally the practice of physic in England, at a greater distance than seven miles from London?" "If they have such power, does it extend to Doctors of Physic, not graduates of Oxford or Cambridge, or merely to persons practising without a diploma?"

In reply to these queries the learned sergeant gives it as his

opinion, "that the London College of Physicians have not any power whatever, either under their charter confirmed by the 14th and 15th Henry VIII., c. 5, or by the 3d section of that act, to control the practice of physic in England at a greater distance than seven miles from London." And he expressly grounds this opinion on there being no penalty inflicted by the prohibitory clause, in consequence of which omission he distinctly pronounces the act in this respect to be a "dead letter, and wholly inoperative." He further asserts, that any person, with a degree or without one, or with a licence or without, may practise in England at a greater distance than seven miles from London, without being under the control of the College of Physicians, or of any other, or liable to any penalty for so doing, notwithstanding the statute 14th and 15th Henry VIII. Such an opinion could not fail to make considerable impression on the profession, and to disincline them still more from seeking any connection with a college that could yield them no protection, and which had no legal control over them. Every inducement for obtaining the college licence must thus have been considered at an end; nor could any provincial physician, after this authoritative interpretation of the law, be expected to subject himself gratuitously to the inconvenience, vexation, and expence, attendant on the forms by which the College licence is obtained.

And yet there is but too strong reason for believing that this opinion is invalid, and that no physician can legally practise his art in any part of England unless licensed by the London College, excepting the medical graduates of Oxford and Cambridge. The opinion infers the nullity of the statute in respect of provincial practice, on the ground of no penalty being prescribed. Now, a twofold error seems here to be committed; for it is by no means clear that a penalty is not prescribed, and, even if there were none, such an omission would in nowise nullify the prohibition of the statute. Each of these points requires to be illustrated. It is true that the 14th and 15th Henry VIII., c. 5, § 3, expresses a naked prohibition unsupported by penalty. But this clause has a direct reference to the 3d Henry VIII., c. 11, § 2, which has never been repealed, and varies from it only in altering the examiners, and transferring the licensing power, leaving the "like pains" attached by the earlier statute unaltered. There is little doubt, then, that, if a question of law were to arise on this point, these statutes would be considered in conjunction, and the penalties of the earlier adjudged to a violation of the later. But, supposing it otherwise, and that the later statute should be considered as

standing alone, still it would not be inoperative for want of a penalty, for "a remedy is a consequent, or thing implied in every prohibition by any statute." The penalty incurred, where none is specified, is fine and imprisonment; and where no form of action is prescribed, an action upon the statute lies. (See 2d Inst. 54, 74, 131, 163. Case of Marshalsea, 10 Rep. 75. Crowther's case, Cro. Eliz. 655. 1 Hawk. 92.) Indeed, no rule of law seems better known, or more frequently recognised, than this, "that for any thing generally prohibited by statutes, if it be done, an indictment lies for it, notwithstanding punishment be not expressly given." (See Comyns, Digest. art. Indictment, 371. 2 Hale, 171. Str. 1146. 4 T. R. 202. 3 Chitty's Criminal Law, 588.) No doubt, therefore, can be entertained of the illegality of all provincial practice by physicians who are not licensed by the London College, all such being liable, on information, to conviction and penalties. It is no doubt true, that the college has no express authority under the statute to prosecute for such offence, and if Sergeant Williams's opinion were to be considered only with reference to the powers of the college, it might seem to admit of some justification, for the college have rather a trust to execute, a duty to perform in examining those who apply to them, than any direct power of controlling those who omit to obtain their licence. Any one, however, may prosecute; and if a *qui tam* informer should arraign a physician's legal qualifications, and succeed in establishing a negative, the courts would, in such case, have no discretion, but must administer the law as they find it, and, after verdict had, the infliction of penalties to a certain amount must ensue. Thus a large and respectable body of practitioners, possessing every essential qualification, and chargeable with no wilful fault, are placed in the humiliating situation of being liable to prosecution for a legal misdemeanour at the suit of any common informer, and have no security against such prosecution, but the insufficiency of the penalties to tempt the informer's cupidity. So far they seem safe from prosecutions instituted by mere love of gain, though not from those to which malice might incite. But there is another consequence of their practice being illegal, which affects them more nearly, as being more liable to occur; this is the incapability of recovering under an action of defamation of professional character, however grossly or wantonly assailed. The case of Smith against Taylor is directly in point. (See 1 Bos. and Pul. New Rep. 196.) This was first tried at the assizes of Suffolk, and the plaintiff recovered a verdict for L. 100 for disparagement of his professional character. A new trial was moved on the ground that the plaintiff had not

produced any evidence of his being a regular physician; to this it was answered, that the allegations in the declaration were not such as made it necessary for the plaintiff to prove his diploma. On this new point of pleading the court were equally divided; but with regard to the privileges conferred by a Scotch diploma as to practice in this country, they all appeared agreed, that, "if it was necessary to prove that the plaintiff had lawfully practised, the objection to his recovery of damages was well founded; for the practice being the ground of action, no action can be maintained for lessening that which ought not to exist at all." The court also said, "that a person practising physic, without any authority, is liable to prosecution at the suit of any person; for, as the prohibition is general, and no mode of punishment is pointed out, it follows, that he who offends against the provision is liable to an indictment." These multiplied authorities place the question of law beyond a doubt, and shew in what light Scottish graduates in physic are regarded in the eye of the English law. When it is considered how large a portion of British physicians are qualified exclusively at the medical schools of Edinburgh and of Glasgow, and how few of these deem it requisite, or even know it to be necessary, for them to legalize their practice by obtaining the licence of the London College, it will hardly be denied that some change is required in the law of the land which shall bring these meritorious individuals within the pale of legal protection.

It may not be amiss to conclude this essay by briefly specifying some of the hardships under which physicians actually labour, in consequence of the imperfections of the existing laws.

It is a hardship that the legal qualification of the physician is so inconsistent with those causes by which the essential acquirements of his profession are obtained, that, in pursuing the latter, he almost of necessity abandons those professional distinctions which by law he is justly entitled to claim.

It is a hardship that the law of the land has fallen into such disuse, that physicians, whose courses of education are necessarily influenced more by prevailing practice than by any intimate acquaintance with the statute-book, learn the real state of the law on the subject only when too far advanced in their professional career either to modify or abandon it.

It is a hardship that the original testimonials of the physician's professional competency, though emanating from highly dignified universities, and obtained only on proofs of regular study and the test of strict examination, are yet of no avail in giving him a legal qualification to practise, but that he is after-

wards subjected to repeated ordeals, founded on no conceivable ground of public benefit, and conducted by men directly interested in narrowing their profession.

It is a hardship that, even after submitting to additional and superfluous trials, such as are wholly unknown in other professions, he is not free to practise his art where convenience or necessity may incline him, but that in each capital of the united kingdom, (at least in London and Dublin,) he is met by corporate restrictions, which render it necessary for him to undergo still further trials, that are tedious, harassing, expensive, and every way vexatious.

It is a hardship that, in consequence of omissions into which he is unwittingly betrayed, the unlicensed physician is placed out of the pale even of legal protection, and that, however assailed by wanton or malignant calumny, he can have no legal redress, because he can only seek this on the ground of injury done to his professional character, in which character the law cannot recognise him.

These grievances will hardly be deemed speculative or visionary. As an illustration of the hardships actually felt, I shall briefly notice an instance of recent occurrence, which must demonstrate how much individuals are obstructed in professional career by corporate restrictions, and by the want of that mutual accommodation that should subsist among the several medical corporations.

A medical man had successively become a Member of the Royal College of Surgeons of Ireland, a Doctor of Physic of the University of Glasgow, and a Licentiate of the London College of Physicians. He afterwards served as Physician to the Forces with the British army for many years, and in almost every quarter of the world. On the reduction of the army, he was naturally led to seek for occupation in private practice, and was influenced by a concurrence of circumstances in wishing to fix his residence in Dublin. Here, however, he found that he could only hold an inferior rank in his profession, unless he became a licentiate of the Dublin College of Physicians, whose licence was only to be obtained by fresh examinations and fresh fees. These latter, though not inconsiderable, he might have disregarded; but finding that the college were not likely to respect the multiplied qualifications which he already possessed, or to wave in any degree their right of censorship in examining him, and being too haughty in spirit to brook the indignity of submitting at his age, and under his circumstances, to a school-boy examination in elements, he abandoned his views of Dublin practice, and determined on relinquishing medical speculation of

every kind. Thus the public has been deprived of the matured experience of a highly qualified physician, and of the valuable services which he could so eminently have rendered, while he is prevented seeking those advantages to which his talents and acquirements entitle him, and is consigned to listless inactivity, or to cheerless and unprofitable peregrination, at a period of life, which a judicious writer has well pronounced to be that of "sober thought and steady exertion." How the public is recompensed for such loss, or what advantages result from the present system, to compensate so much public and private injury, I am unable to discover. A parliamentary investigation may possibly bring them to light, and thus either disprove the complaints so generally made, or shew them to be irremediable. In either case good must result from inquiry; and as individuals cannot be expected to persevere in a hopeless advocacy of reformation, or to waste exertion in the discussion of grievances, to which the parties affected seem by their supineness to be insensible, they who concur with the author of this Essay in believing the grievances to be real and oppressive, and in deeming some reformation called for, are earnestly requested to avail themselves of any impulse which the foregoing representations may excite; and to arrange some plan of co-operation by which the prevailing sentiments of the profession on this highly important question may be respectfully submitted to the Legislature. On the Licentiates of London, the duty of making the necessary arrangements would appear to devolve; and if such arrangements be founded in the spirit of truth, disinterestedness, and regard for the welfare of the public, the results cannot fail to be satisfactory, whether they establish the reality of evils, and promote their correction, or evince that none exist, save what arises from that imperfection which belongs to all sublunary things.

P. S.—I was unwilling to extend the present tract, or to distract attention by multiplying the objects demanding it, else I should have noticed a clause in the last apothecaries's act, which is calculated to effect a very considerable revolution in the line of "general practice" in England.

In my former tract, I think I succeeded in demonstrating the importance of the "general practitioner," and shewed, pretty clearly, the advantages which resulted to the community, from that silent operation by which the members of the London College of Surgeons supplied this species of practitioner. With these convictions, I could not, without surprise and concern, read the following clauses of the 55th Geo. III. c. 194, which, if

enforced, must effectually preclude all future surgeons from the practice of pharmacy, and thus unfit them for acting as general practitioners, unless they also become members of the apothecaries's company.

The clauses are as follows: "XIV. And to prevent any person or persons from practising as an apothecary without being properly qualified to practise as such, be it further enacted, that from and after the 1st day of August 1815, it shall not be lawful for any person or persons (except persons already in practice as such) to practise as an apothecary in any part of England or Wales, unless he or they shall have been examined by the said Court of Examiners, or the major part of them, and have received a certificate of his or their being duly qualified," &c.

"XV. No person to be admitted to examination, unless he shall have served an apprenticeship to pharmacy of not less than five years," &c.

"XX. Penalty for practising without a certificate L. 20, for an assistant L. 5."

Does not this act give to the apothecaries an effectual monopoly of the line of general practice, and can future surgeons practise pharmacy consistently with these legal prohibitions?

The result may, no doubt, be eventually the same, whether the surgeons or apothecaries furnish the general practitioner; nor does it much concern the public from what source he emanates, provided he be duly qualified.

But I own myself at a loss to understand why the mode of superadding physic and surgery to pharmacy is preferred to that by which this country has been so long supplied.

It is somewhat extraordinary how the London College of Surgeons could have suffered this bill to pass unopposed; for it strikes at the very root of their charter, the great demand of society being not for mere surgeons, but for surgeon apothecaries.

The circumstance affords an additional proof, I think, of the danger of legislating partially for the profession, and of the necessity of determining, by a full and comprehensive survey of the profession, the relationship which its several departments bear to each other.

April 19, 1820.

II.

Case of Accidental Poisoning with Corrosive Sublimate, treated successfully. By CHARLES THOMAS, M. D.

MRS C——, aged about 30 years, on the 15th of January 1815, had been confined a month with her fifth child. Her delivery, and all the circumstances, both previously and subsequently connected with it, were of the most favourable kind. Her general health had always been good. But, for a year or two before, she had been troubled with an eruption on the face, which resisted various applications employed to remove it. During her confinement, the medical gentleman, under whose care she was, had given her several lotions, composed of muriat of mercury, for it. The first of these contained ten grains; but he increased the quantity five grains in each succeeding lotion, till that of the last amounted to *thirty* grains. She had used this last lotion twice, by merely wetting a rag at the mouth of the phial, and touching the eruption with it. On the morning of the above mentioned day, this lotion was placed on the chimney-piece by the side of a draught, which she was to take. She called her nurse about seven o'clock to give it her; but this woman, with a degree of carelessness which cannot be too strongly reprobated, poured out the lotion into a tea-cup, instead of the draught, and handed it to Mrs C——. At this hour there was but imperfect day-light, so that she could not well see what was in the cup; and at the very moment her attention being particularly called to her child, and having full confidence in the nurse's attention and care, she very hastily drank off its contents. While swallowing it, she thought the quantity to be greater than she expected; and the moment it appeared to reach the stomach, there was a violent burning sensation in it. She immediately inquired of the nurse what had been given her, and ascertaining the mistake which had been made, exclaimed that she was poisoned, and directed that I should be instantly called. I was in the room in a minute or two, and found her sitting up in the bed, irritating the throat with her finger, in order to excite vomiting. By this expedient a considerable quantity of fluid continued to be spit up. I had been reading a very short time before, in Rees's Cyclopædia, of Mineral Poisons, and that liver of sulphur was considered the best antidote for corrosive sublimate. This impressed me so strongly with the necessity of procuring some of it, and that with as

little delay as possible, that I ran away myself to call the surgeon, who lived at a considerable distance, principally to mention this remedy to him. About *three quarters of an hour* had elapsed from the time of her swallowing the poison before the surgeon and myself could be with her, bringing with us what was deemed necessary to be administered. She was then complaining of intolerable burning in the throat and upper part of the stomach, which she described as gradually sinking lower down. An emetic of ipecacuanha was given. In a few minutes she grew sick. Two large spoonfuls of a strong solution of liver of sulphur was then swallowed. This was scarcely down when she vomited copiously. A spoonful more of the solution was given, and several times repeated in the intervals of vomiting. This was kept up by warm water and chamomile tea, in which some salt of wormwood was dissolved; how much I don't know. * Between two and three hours after taking the poison, spasms came on, first in the toes and feet, and then in the fingers and hands, and afterwards extending up the legs and arms. A violent spasm attacked the right breast, and shot through to the back, just under the shoulder-blade. The breast became much contracted, and its milk was speedily dried up. She seemed much exhausted. The surgeon had left directions to give a spoonful of the dissolved liver of sulphur, whenever any complaint was made of heat in the stomach. Soon after this, she was seized with alarming faintness, which continued to recur at short intervals. The administration of ether removed this symptom entirely. She again complained of burning deep in the stomach. More of the liver of sulphur was given; "this," as she described it, "soothed the pain in such a way, that it seemed like pouring water on fire." †

After this she no more complained of burning heat, but the stomach remained unsettled with frequent urging. Towards evening an attempt was made to give a spoonful or two of gruel, but the stomach rejected it. The first night was passed in a tranquil state, and free from pain; but she appeared much exhausted.

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* The colour, or any other property of the fluid, ejected by vomiting, is not mentioned.

† In Mr Valentine's cases in the Edinburgh Medical Journal, for October 1818, a similar effect was produced by a saturated solution of supercarbonate of potass in water. "The alkaline solution," says he, "appeared to excite disgust, but afforded evident relief when swallowed, by the *instant calm immediately produced*, when it came in contact with the inner surface of the stomach."

January 16.—During the whole of this day she was nearly in the same state as in the night; free from pain, faintness, or spasms, with some sleep at times. But the stomach continued so irritable that nothing would remain on it.

During the second night her sleep was disturbed by frightful dreams. She began to think unfavourably of her situation, which had not been the case before. She had been hurried in her sleep, by fancying that an horridly looking figure was at the bed side presenting a bottle to her.

January 17.—Early this morning she had for a considerable time a severe tingling sensation, similar to that which, in familiar language, we describe by the expression of "being asleep." About four or five o'clock she complained of pain at the pit of the stomach, which she said had been increasing for some time before. On pressing my hand firmly to the part affected, I felt wind rolling under it. Warm cloths were applied, and ether again given. These means speedily removed the pain.

During the day she took frequently a little negus, gruel, and toasted bread, which we had the satisfaction to find settled well on the stomach.

In the evening very distressing tenesmus came on. She had felt it a considerable time before she spoke of it, and getting worse and worse, nothing passed but mucus, tinged with blood. It was relieved by two common clysters.

From this time every thing went on favourably. She did not venture to take any solid or animal food for a week or more. The first time she attempted to take animal food, the teeth appeared to refuse their office. They seemed loose and blunt. About this time, also, bits of dead skin came away from the throat and mouth, resembling the peelings of roasted potatoes. A tooth had been drawn some little time before, and from the vacuity it had left, a large piece of the gum came away. From the side of the tongue also a portion separated, of the size of a large pea, leaving a cavity corresponding to its extent. The tongue, gums, and throat continued tender while these substances were coming away.

I do not perceive that any particular effects have been left on the constitution. The right breast remains in the same contracted state I before mentioned. The milk was several days later before it appeared in it than in the other, when she again became a nurse two years ago.

I particularly examined the bottle in which the lotion was, immediately after the accident, and found *no kind of sediment at the bottom. It was completely emptied.*

III.

Case of Fractured Skull, with Loss of a Portion of the Brain, successfully treated. By S. Peake, Member of the Royal College of Surgeons, London.

On Sunday morning, September the 19th, 1819, I was desired to visit immediately W. H., a lad about 18 years of age, who had just before received a fall from a horse. Upon my arrival, I found him lying upon a temporary bed in a room below stairs, complaining of great pain in the head, but sensible; he was continually sick, and had vomited much. Upon examining the head, I found on the right side, just at the junction of the temporal with the parietal bone, three small contused wounds, from which there had been much hemorrhage; they were still bleeding, and with the blood, as it poured forth, was mixed a whitish substance, which every now and then escaped from the wound, and in quantity about as much as would form a pea.

Before I passed a probe, I could observe an evident depression of bone, and feared, from the appearance of what I have described above, there must be not only a fracture of bone, but also an injury to the substance of the brain itself. This I found to be the case, for, upon examination, I discovered an extensive fracture of bone, and that not only pressing upon, but passing into the very substance of the brain. The boy was sufficiently sensible to inform me in what way the accident had occurred. The horse upon which he was riding had run away with him; the boy, from terror, his hat having previously fallen from his head, threw himself off, and fell with great violence with his head upon a heap of stones that were lying by the road-side. He was directly discovered in a state bordering upon insensibility, and carried home, a short distance only from the scene of this unfortunate accident.

I apprized my patient it would be necessary to perform an operation in order to remove the fractured pieces of bone, to which he readily consented; and some few hours afterwards, in the presence of Mr Hayward, surgeon, of Epping, and my pupil, Mr Smith, I commenced by making an incision freely and directly across the seat of the fracture, thereby exposing the whole of the broken pieces. Having done this, I was enabled, by means of a pair of common dressing forceps, to re-

move a piece of bone from the centre of the fracture, and was then able to get at the remainder without the use of the trephine.

Directly after the removal of this piece of bone, there issued a portion of the brain in one solid mass, and in quantity about as much as would fill a large sized tea-spoon; smaller portions also escaped, mixed with the hemorrhage, and continued to do so all along as we proceeded with the operation. Having removed the centre piece of fractured bone, I now found the levator very effectual, and by the help of it and my forceps was soon enabled to get away a second piece, and that much larger than the first. In the same way I succeeded with the third, and so on, until I had taken away, in the whole, seven pieces, all of which seemed to have rested, not *upon*, but had been thrust *into* the very substance of the brain itself. One small spicula in particular, about an inch long, passed in a straight direction into its very substance, and from that situation I removed it. We had now effectually taken away all the detached portions of bone, and found still a slight fracture passing downwards towards the face; it, however, caused not the least degree of pressure, nor did it extend far, or seem to be at all of consequence. I, however, applied the levator, and brought into contact the edges of the bone as nearly as could be done. Having done this, we very carefully examined the wound, in order fully to satisfy ourselves that every portion of detached bone had been taken away; and being fully persuaded it was so, we sponged out the wound, and proceeded to dress it with common adhesive straps, and a light bandage over the whole. Our patient bore the operation manfully, and was sensible throughout the whole of the time. We now directed that he should be put to bed, and the room darkened, that he should be kept as still and quiet as possible, and treated strictly according to the antiphlogistic plan and regimen, and be disturbed by no one.

He passed as good a night as, under such circumstances, could be expected; he had, however, little or no sleep, and in the morning complained of much pain and intolerance of light; the least noise, also, seemed to disturb him. I now bled him freely, and in addition to the medicines already directed, I gave him some cathartic mixture, which, in the course of the day, acted freely upon the bowels. On my next visit I found him labouring under great irritation; the skin hot and dry; the pulse much accelerated, and the least noise disturbed him very much; he could not bear to move his head from the pillow; had at times appeared delirious, and convulsive fits came on very frequently at intervals. I removed a part of the

dressings, and found a considerable discharge from the wound; there had been no hemorrhage of consequence. I had some difficulty to keep his head sufficiently long from the pillow to apply the dressings; his bowels were regular. In this state he was on the 3d and 4th day after the operation, and from this time to the 13th or 14th day, there seemed to be the greatest degree of doubt, whether he could possibly survive the effect of so extensive an injury to the most important organ of our animal economy. The discharge from the wound at each dressing was most extensive, and from the surface and substance of the brain came away very considerable sloughings, mixed with the discharge, which occasionally I in part removed with the point of a pair of small dissecting scissors.

From the 4th and 5th day he was for the most part sensible, except when the convulsive fits came on, which, from this time to the 13th day, were very frequent and severe. For many days and nights they came on at intervals of from 20 to 30 minutes, and sometimes much oftener, distorting the countenance in a horrible manner, and exciting an involuntary action of the whole nervous system throughout, from head to foot, affecting also the nerves internally; for the intestinal canal seemed to partake of the general sympathy, and was thrown into the most convulsive state of agitation, and, to use the poor boy's own expression, "when the fits came on they were ready to shake his very guts out." They lasted upon him for the most part, when I have been present, but a few minutes only; but his attendants have told me on my morning visits, that the convulsive fits had been on him for two or three hours together, and that they thought every minute must have been his last; and in this opinion, when it has happened that I have been also a spectator, I have been more than once obliged to coincide. Sometimes, while the fits were upon him, he passed both feces and urine involuntarily, but never at any other time. About the 14th day the discharge from the wound began to lessen, the sloughings also from the brain were less, and the general appearance of the wound was altogether much altered for the better; the convulsive fits were not so frequent, and the system in general seemed to be suffering less under the effect of this most severe injury. One circumstance I have omitted yet to mention is, that, while the convulsive fits were most urgent, he afterwards complained of paralysis of the left hand and arm. The injury on the head was on the right side. One day, in particular, he assured me he had no feeling at all in that arm or hand. As the convulsive fits, however, left him, sensation returned.

On the 14th day, from the favourable appearance of the wound,

and from the altered state of the discharge, as well as from the better appearance of the brain itself, for it is still visible, and from the boy's general state of amendment, I ventured to bring the edges of the wound more closely together, by means of a suture, and dressed it afterwards with strong adhesive straps. He still persists, and has done throughout, in the strictest attention to the antiphlogistic plan of treatment; he has now but little fever; does not complain of so much pain, and is enabled to bear the fatigue of dressing much better. On my next visit, the 16th day, I found him still improving; the convulsive fits now disturb him but little; the wound is looking better, and the discharge is abated, and we could observe in every symptom a change for the better. From this time to the 21st he kept on mending, as fast as the nature of the case would admit of, and on that day, exactly three weeks from the time of the accident, I permitted him for the first time to sit up for a few hours, which he bore very well. He sat up on the following day; and the next morning, much to my surprise, when I called to dress him, I found him outside the front door. New integument is forming rapidly over the surface of exposed brain; he has had no return of convulsions; has a good appetite; sleeps well; is free from pain; and at present there appears every reasonable expectation that this case of most extensive injury of the brain will terminate in the sufferer's complete restoration to health.

Chipping Ongar, Essex,
October 16, 1819.

P. S.—Since writing the above, the lad has been able to come every other day, a distance of four miles, to my house to have his head dressed. The wound is healing very rapidly, and he is in a state of complete convalescence.—*October* 29.

IV.

Case of Empyema. By John Renton, Esq. Surgeon, Penicuik.

J. M., a girl, three years of age, had been affected, for several weeks, with pain in the left side of the breast upon inspiration, and with a frequent short dry cough. The disease at first was regarded as a common catarrh. The symptoms,

however, did not yield to the remedies employed in the removal of that complaint. On the contrary, they gradually increased in violence. Respiration was performed with the greatest difficulty and pain. The child became weaker and weaker in consequence of a severe bowel complaint; and, for a considerable time before its death, was unable to breathe either upon the back or right side. The cough, which continued to the last, was never accompanied with expectoration. In addition to these symptoms, the mother of the child particularly remarked the frequent occurrence of rigors, and the unimpaired state of its appetite, notwithstanding all its distress and suffering.

My father was requested to visit the child, a few days before its death. He found it in a very weak and exhausted state. The countenance expressed great anxiety. The respiration was extremely hurried and difficult; and the child could not now be turned in bed upon the back or to the right side without feeling an immediate sense of suffocation. Upon applying the hand to the right side of the thorax, he was surprised to feel a strong and distinct pulsation, which did not cease upon pressure. Upon the left side of the breast there was a large tumour, extending from the third rib to the diaphragm downwards, and from the sternal extremities of these bones a considerable way backwards. No pulsation could be felt in the region the heart occupies in the healthy subject. The face was swollen, and of a livid hue. I afterwards learnt upon inquiry, that, for two days before it died, the respiration was so difficult, the child could not be laid in the horizontal posture, but was carried, upon the left side, in its mother's arms, (the only position in which it then experienced any mitigation in the state of its breathing,) and expired at last suddenly, after labouring under all the symptoms which arise from strangulation.

Dissection of the body after death shewed that the disease consisted of an inflamed state of the pleura, and of the formation of pus from the particular action of the blood-vessels of that membrane; or, according to Dr Baillie, from the layer of coagulable lymph which covers it.

The abdomen was very much swelled, and the tumour on the left side of the thorax had almost entirely disappeared. As there was reason to believe, from the symptoms of the disease, that the left cavity of the thorax was filled with pus, a trochar was introduced into the place, (where the operation of the paracentesis thoracis is generally performed,) in order to evacuate that fluid. About twelve ounces of thick healthy pus, such as is found in a well digested abscess, were evacuated by this means.

I have, however, to regret the doing of this, in as much as it prevented the situation of the heart from being exactly ascertained; for I have no doubt, had that been examined before the matter had been removed, that the heart would have been found having pushed forward the mediastinum towards the sternal extremities of the ribs on the right side, where its pulsations were felt. The cartilages of the ribs were divided, and the adhesions, between the anterior mediastinum and sternum, removed in the usual way. There were considerable traces of inflammation observed between the intercostal muscles and pleura. Nearly as much pus was found within the cavity of the thorax as was removed by the trochar; the quantity was not measured, but the whole was supposed to amount to twenty ounces at least. Nothing was found remarkable about the heart except its situation. It was found lying immediately below the sternum. The pericardium was of a dark colour, and the liquor pericardii in much greater quantity than usual. The substance of the heart was in a healthy state, and no morbid alteration was observable in its valves, or in the blood-vessels connected with it. The left lobe of the lungs was almost wholly collapsed. No air could be evacuated from it by pressure. There were no tubercles or marks of abscess to be discovered in its cellular texture. The pleura was of a dark livid colour, and much thickened and softer than natural. Its surface was uneven, and presented such marks as appear upon the skin after a severe attack of small-pox. The contents of the right cavity of the thorax were in a healthy state. The cavity of the abdomen was not opened.

The symptoms of the disease were strongly marked, and pointed out, in a very unequivocal manner, its real nature. The pathognomonic symptoms, distinguishing it from hydrothorax, were the rigors and other constitutional effects which mark the presence of hectic fever. The disease evidently appeared also to be confined to the left side of the chest, a circumstance not generally to be remarked in the history of hydrothorax.

The principal objects worthy attention in this case are, the unnatural situation of the heart, and the collapsed state of the left lobe of the lungs. It appeared from the dissection, that respiration for a very considerable time must have been carried on by means of the right lung entirely; and that the palpitation felt beyond the right side of the sternum must have been owing to the irregular contractions of the heart; and that death, in a great measure, was to be attributed to deranged circulation in that organ, and the lungs, &c.

Empyema is oftener a disease produced by the termination of other diseases, or a consequence to injuries of the thorax, than one arising from inflammation of the pleura. Whether the matter, however, proceed from the bursting of a vomica into the cavity of the chest, or from previous inflammation of the pleura, the principal object to be attended to in the cure should be the removal of that matter by means of an operation. The colour and smell of it will enable us to judge whether or not it comes from an ulcerated portion of the lungs, which secretes a fœtid and offensive fluid. In the present case, from the unwillingness of the parents to consent to an operation in the exhausted state of the child, I was prevented from using the only expedient which then remained to be tried, in this hopeless stage of the disease. It might afford matter of interesting speculation, to inquire how far the elasticity of the left lobe of the lung might have been recovered by the removal of the supercumbent weight of matter; or how long existence might have been protracted by the action of the right lung. It is evident that the chances of a recovery after an operation are much less when the disease is seated in the left than in the right cavity of the thorax, from the former containing the heart and great blood-vessels, and the circulation of the blood in them being, therefore, more readily deranged.

I have been induced to offer you the history of this case, as it seems to point out the necessity of removing the matter from the cavity of the thorax, so soon as its presence is unequivocally marked, and in as early a stage of the disease as possible, before hectic fever has greatly impaired the strength of the constitution; and there is every reason to believe, that, in a majority of cases, the operation will be successful in establishing a cure, provided, as in the present instance, the disease be not complicated with derangement, or morbid alterations in the structure of any of the thoracic viscera.

Penicuik, November 6, 1819.

V.

Case of Cynanche Laryngea, successfully treated. By Edmund Tatham, Surgeon.

On Sunday evening, October 31st, I was requested to visit Mary O'Neil, ætat. 39,—in a very low situation of life,—of spare habit,—the mother of eight living children,—and in

the sixth month of pregnancy. Her husband stated, that, on Friday preceding, she became affected with general uneasiness and fever, together with pain in her head, that afterwards descended into her throat, and caused difficulty of swallowing, and impeded respiration; all which symptoms had rapidly increased till my seeing her, when she could swallow nothing but liquids, and those with the most painful efforts, and in the least possible quantity. Her breathing was extremely slow and laborious, attended with considerable noise. Her voice was nearly inaudible, resembling a hoarse whisper. She pointed to the thyroid cartilage as the seat of her uneasiness. No pain in the chest. Upon inspecting the internal fauces, I could discover no enlargement or inflammation. Countenance pale and expressive of great anxiety, and fear of suffocation; tongue foul, and somewhat swelled; pulse about 100, rather hard; bowels confined. Observing the affection of so severe a nature, I proposed bloodletting, but that was objected to, upon the plea of there being too much debility. I therefore sent a blister to be put over the part affected, and along with it two doses of calomel, (each containing six grains,) one to be taken immediately, and the other early in the morning, mixed in a very little sugar, and allowed to go gently down.

Next morning (Monday) I found the poor woman in the same deplorable state. She had passed a very restless and uneasy night. The medicine had produced no evacuation. Breathing and deglutition were not in the least amended. Voice was entirely gone, not even a whisper to be heard. Believing the case to be one of cynanche laryngea, as first particularly noticed in the 3d Volume of the Medico-Chirurgical Transactions, by Dr Farre, and in the three subsequent ones, by Dr Percival, Mr Wilson, and Dr Roberts, I determined upon following their depletory plan; therefore took from the arm about 18 oz. of blood; and upon hearing that great part of the medicine had been taken, ordered it to be repeated every four or six hours. At noon all the symptoms were aggravated. Every attempt to swallow was attended with the greatest suffering; for, whenever gruel, or any other drink, reached the inflamed epiglottis, it was immediately ejected, either directly, or through the nose, by the most violent coughing, that had once almost produced suffocation. She was obliged to have her head and shoulders kept constantly raised, to facilitate respiration, and enable her to get rid of viscid phlegm that accumulated about the inflamed parts. The blood drawn in the morning was buffed, but not cupped. Pulse very frequent, intermitting every fourth beat. The blister, that rose, and discharged pretty

well, was removed, and another ordered to be applied, not exactly over the pained part, but on one side of the larynx and trachea. She was bled again, to the same amount as before, after which partial syncope ensued. In the afternoon some indurated mucus was expectorated, which gave relief. At six o'clock, P. M. her situation did not appear quite so desperate. She breathed with rather more ease, and the stridulous noise was not by any means so considerable. Her pulse was now regular, though very quick and feeble. The blood removed at noon showed the buffy coat in a slight degree. Having every reason to imagine that the previous loss of blood had greatly contributed towards bringing about this abatement of suffering, I bled her to 10 oz. more, directed an enema to be administered, and wished the inhaling of warm water and vinegar to be continued, as it had been used from the first of the attack with benefit. In the early part of the night, one pretty copious evacuation, of dark-coloured offensive feces, was procured by the enema, after which she slept for a short time, and in the morning (Tuesday) she appeared something easier. Breathing and deglutition were much improved. She could now speak in a faint whisper. The pain about the thyroid cartilage still remained, though not so violent; tongue a good deal swelled; pulse more natural. The blood last drawn did not exhibit any marks of inflammation. I desired the attendants to give her broth and jelly in small quantities, frequently repeated, and, if the medicine should not act upon the bowels in the course of the day, to administer another injection. At my visit in the evening, she informed me that she continued to improve, and that the clyster had had the desired effect, in producing a plentiful evacuation. That night was passed in comparative tranquillity, and on Wednesday I found every thing wearing a favourable aspect. Respiration was performed with tolerable facility. Liquids could be taken without much effort. Considerable soreness of throat was felt, yet none of that acute pain which formerly existed. Tone of voice much stronger and clearer; pulse about 95; tongue not so much enlarged, though very sore, as was the whole mouth from the mercury, which likewise opened the bowels most freely during the greater part of the day; therefore I ordered it to be entirely discontinued, whereupon I was told that it had not been taken regularly for many hours. On Thursday all her complaints were greatly diminished. From this period she gradually, though slowly, recovered, requiring a little medicine occasionally; and when I last saw her, a month since her severe attack, she seemed grateful for what had been done, and said that slight debility alone

prevented her attending upon her family as usual, but that she became every day stronger.

That the foregoing was a complete and well marked case of cynanche laryngea appears pretty evident. The slow and laborious respiration, unattended by any pain in the chest, tumefaction of internal fauces, or cough, (unless brought on by irritation, communicated to the inflamed epiglottis, in attempting to swallow,) the impeded deglutition, the particular tone, and afterwards complete loss of voice, together with the uneasiness referred to the upper part of the throat, and the great frequency of pulse, completely established the nature of the disorder, respecting the management of which, a few remarks may not be altogether superfluous. The blood-letting was carried to larger extent, in a short time, than it would have been, from any thing indicative of its necessity in the pulse, or habit of the patient, had it not been known that this disease always requires the adoption of the most vigorous measures, as early as possible. Indeed, I regretted afterwards that I did not insist upon the performance of venesection at my first visit when it was opposed. There was nothing peculiar, either as to the size of the blisters, or their application; they certainly appeared to co-operate with the other remedies in cutting short the malady. I was led to have recourse to the liberal exhibition of calomel, (which may, perhaps, be considered to have been incompatible with the patient's situation,) from the advantage expected to be gained by its thoroughly evacuating the bowels, as well as by its lessening the general inflammatory action, in affecting the system. There was reason also, according to the late suggestion of a gentleman, * to suppose, that it would do good by producing a copious secretion from the salivary glands, and neighbourhood of the inflamed parts. My expectations in regard to this were, in some measure, realized, but not until the symptoms had been mitigated by other more efficacious means. The cause why leeches were not used here was the difficulty at the time of obtaining a sufficient number, yet the case did well without them; and it is worth while noticing, that no mention is made of their application in the only two successful cases out of five, published in the Transactions above mentioned, and three by Dr Baillie, in the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge. As cataplasms and fomentations have been recommended by an eminent gentleman, †

* See Mr Wood's case of Laryngitis in the 61st Number of the Edinburgh Medical and Surgical Journal.

† Vide Sir Gilbert Blane's Remarks on Cynanche Laryngea in the 6th Vol. of the Medico-Chirurgical Transactions.

it may not be improper to say, that they were used for a little in the present instance, but were obliged to be soon given up, owing to the increase of pain they produced, contrary to what might have been expected from analogical reasoning. It was fortunate that the uterine system remained in an uninterrupted state during the whole of the affection, notwithstanding its violence and necessarily severe treatment; for, had abortion taken place, it is reasonable to infer, that much would have been added to the improbability of a cure being effected in a disease that, under more favourable circumstances, genetally proves fatal.

Kendal, Dec. 2, 1819.

VI.

On the Beneficial Effect of the Cold Affusion in a Case of Continued Fever. By Edward Dixon, Esq.

I was requested to visit Master Henry Hutchine (aged nine years) on the 11th of September last, and was informed that he had been in a declining state of health for some weeks. I found him labouring under the following severe symptoms of fever: delirium; the pulse 120, and hard; tongue thickly coated with a yellowish fur; the skin dry, and very hot; the bowels constipated; attended likewise with a considerable degree of deafness.

Mittr. sanguin. é brachio ℥viij. statim.

℞ Potassæ nit. ʒi. Liq. ant. tart. ʒij. Mag. sul. ʒiij. Syr. croci ʒij. Aq. distil. ℥ij. M. ft. mist. de qua capt. coch. mag. 4tis horis.

Vespere.—None of the symptoms having abated, I ordered a warm-bath, which was prepared immediately. He remained in it about ten minutes, and had a plentiful evacuation from the bowels the moment he was taken out. He was afterwards put to bed between the blankets, and his medicines ordered to be continued. The blood which was drawn in the morning did not exhibit the slightest appearance of inflammation.

12th.—No diaphoresis was excited by the means adopted on the 11th; the pulse continuing as hard and frequent as before; the patient complaining of violent pain in the head, with delirium at intervals during the night.

℞. Applic. hirudines vj. temporibus, et repet. mistura.

Vespere.—There being no abatement in any of the symptoms, his parents became alarmed for the safety of their child, and a physician was called in. He ordered an aperient draught to be taken directly, and the mixture I had prescribed to be continued.

13th.—We met this morning at 11 o'clock. The draught had operated very freely on the bowels, yet the patient continued much in the same state as on the preceding evening. Six grains of the pulv. Jacob. and two of hyd. submur. were ordered to be given every four hours, with ℥ss. of the liq. ammon. acet. The warm-bath was repeated.

At 8 o'clock, P. M., we visited him again, and found the pulse less frequent, and much softer, and the delirium had left him. He was perspiring very profusely.

Rep. liq. ammon. acet. 4tis horis, sine pulv.

14th.—We were told this morning that the perspiration did not continue more than an hour after we had seen him the preceding evening, and that he had passed a very restless night. Pulse 120. The liq. ammon. acet. was ordered to be continued every four hours, with the following powder: Hyd. submur. gr. i. Pulv. Jacob. gr. iij.

15th.—The symptoms became more violent than ever. Pulse 140. Subsultus and picking the bed-clothes. The physician now considered him in a hopeless state, and declined further attendance. I ordered a blister to be applied behind the neck, and a continuance of the mixture and powders.

16th.—Delirium somewhat abated; but the heat of surface remained unabated. Pulse still 140.

Mittr. sanguin. e brachio ℥viij. Repet. mist. cum pot. nit. &c. ut 11mo, cum Tinct. digital. ℥i.

17th.—The pulse continuing at 140, and there being no determination to the skin, I resolved to try the cold affusion, which I applied in the following manner:—The patient was stripped and placed in a slipper-bath, supported by his mother, whilst I poured gradually over him a pailful of water; he was slightly wiped, and put to bed between the blankets. On feeling the pulse immediately after this operation was performed, I found it reduced to 100, and it frequently intermitted; a quarter of an hour afterwards it became quite regular, and continued at 100. The excessive heat of surface was lowered to the natural standard, and the patient soon fell into a sound sleep, and continued in that tranquil state upwards of three hours, a comfort of which he had long been deprived. Towards evening the symptoms appeared to be returning with their former vio-

lence, I therefore ordered the cold-bath to be repeated, and a table-spoonful of the following mixture to be taken every four hours:

℞ Inf. rosæ ℥iiss. Syr. rosæ ℥ij. Magn. sulph. ℥ss. M. ft. mistura.

18th.—The patient had a good night, but the symptoms of fever coming on early in the morning, his parents had recourse to the cold-bath previous to my seeing him, so convinced were they of its salutary effects, notwithstanding their objections to its application in the first instance were so great. This immediately checked the fever, and I found him very comfortable, perspiring about the head and the palms of his hands. The mixture had given him three or four motions in the twenty-four hours. I desired the bathing to be continued morning, noon, and night.

19th.—Found the patient sitting up in bed amusing himself with some playthings. He appeared much better. The pulse was 96; the deafness entirely removed, and the tongue much cleaner. The alvine evacuations, however, were very dark and offensive; I therefore ordered a grain of hyd. submur., and the same quantity of pulv. ipecac. to be taken night and morning: this had the desired effect.

The cold bathing was continued night and morning for upwards of a week longer, during which period the symptoms of fever gradually subsided, and he was very soon able to dispense with my further attendance.

66, *Wardour Street, Soho, London,*
27th August 1819.

VII.

Observations on the Cure of Cutaneous Diseases by Friction. By Thomas Morison, M. D. Communicated to Dr Abercrombie.

Although the medical world is under strong and lasting obligations to the late Dr Willan, and to his pupil, Dr Bateman, for their arrangement of cutaneous diseases, in which they have exhibited much ability and unwearied industry; very little has been added to our stock of knowledge, regarding the cure of these most troublesome and vexatious complaints.

Deeming of importance every ray of light, however faint, which has a tendency to direct our path in the cure of cutaneous diseases, I shall, in a very few words, explain to you the principle upon which I have acted, and the practice which I have pursued.

I have for many years declined general practice, but having recently met with several very bad cutaneous cases, my attention has been more strongly directed to the subject than at any former period, and the success which followed makes me solicitous, through you, to lay the result of my practice before the public. The principle upon which I have acted is, that cutaneous eruptions are composed of an infinite number of minute *ulcers*, which, of course, fall to be treated as such, according to the ordinary rules of surgery. From this view it will follow, that all siccant remedies, in whatever shape, are inadmissible, and that the eruptions must be kept open and clean, till the cure is completed. This purpose has been effected by friction, and by, as far as possible, secluding atmospheric air. The means I have adopted are these: I dip a sponge in lukewarm water, and after squeezing it hard, so that only dampness remains, I cover it with oatmeal. With this the parts are rubbed for some length of time, the sponge being frequently dipt in the oatmeal, and this operation is repeated two or three times a day, according to the urgency of itching or other symptoms. After being sufficiently rubbed, the parts are washed and gently dried. Oil is then applied, by means of a varnish-brush, and the parts covered up with slips of linen. I give the preference to oil made from cow-heel, on account of its tenacity, and because it can be constantly and easily procured in a fresh state. During the friction, should a little blood ooze out, the appearance need create no uneasiness, and the consequences are rather favourable than otherwise.

The three worst cases which I have met came near to what Willan describes under the title of Psoriasis inveterata. In two the legs were the chief seat of the disease, which extended from the knees to the toes; they were much swelled, full of fissures, and scaly to an excessive degree. In one patient, the disease had existed for twenty months before I saw him, and during that period, every internal remedy and every external application, siccant and emollient, which are in common use, had been tried in vain. By the above mentioned treatment, a cure was perfected in seven weeks. But although the skin put on a healthy appearance, I recommended the continuance of friction with oatmeal, and stockings to be laced tight on the legs. It is well known that the disease is ever most apt to recur in those

parts of the skin which have formerly been its seat, and in this case, from the long continuance of the complaint, added to the severity of the weather at the time, had this precaution not been taken, the disease, I have no doubt, would have reoccupied its place. The cure in the other case was more easy, in consequence of my having seen it at an earlier period. The third case was of peculiar severity; not only the lower extremities, but the whole of the back, loins, and abdomen, were affected. A thin ichorous fluid was poured from every pore, the linen stiffened, scales were profusely formed, and the consequent itching and pain put the patient in perfect torture. The remedies were at first used with much tenderness and caution, and as circumstances admitted, more freely, till the patient was enabled to follow his usual occupations. In many of these cutaneous complaints, small tumours appear with circumscribed tops, containing a thin yellow fluid. These ought at once, by friction, to be converted into open sores, and at the same time rather severely pressed. The moderate pain occasioned by this treatment is amply repaid by the rapid advance of the cure, for, when allowed to take their own course, these tumours prove very tedious and troublesome. This leads me to mention small-pox. The small-pox, in spite of that inestimable discovery, vaccination, will, from our boasted liberty and other causes which will readily occur to you, continue, in a certain degree, to prevail in this empire. I am decidedly of opinion, that this most loathsome and fatal disease might, by the treatment I have recommended, be robbed of its principal terrors. I would propose, that, as soon as the pustules shew signs of suppuration, they should be converted into open sores, and kept in that state till a cure is performed. That fatal period, the secondary fever, would be prevented, and the chance of infection much diminished. In these enlightened days, medical practitioners are freed from the shackles with which they were for ages encumbered, and the consequence of this freedom has been the saving of innumerable lives. It would be highly presumptuous in me to give positive assurance of success. But knowing that the medical art principally consists in restraining nature, when her flight is too rapid, and in giving her energy when her course is tardy, and that the chief business of surgery, so far as regards ulcers, is to give free vent to corroding matter, and thus prevent deleterious absorption, I think myself entitled to augur well of the success of the practice I propose, and flatter myself that medical men will be induced to give the plan their serious consideration.

I have had but one opportunity of trying the effects of the

plan in foul ulcers, but it succeeded beyond my expectation; could it supersede, in sores of this description, the use of acrid stimulants, the patient would be freed from much torture.

Two young ladies, the only cases which have come under my care, whose faces had been for years affected by pimples, were cured, even although the external air could not be secluded during the day.

In the common itch, I have had no opportunity of trying the plan, but of its efficacy I do not entertain a doubt. Indeed, in all cutaneous diseases, where scurf or scales are formed, even in lepra, the plan, if well conducted, will be useful, particularly if early attention is paid.

No remedy which I have met with so effectually allays itching. If the patient, instead of applying to it, permits himself to scratch, the cure will be much protracted.

In the cases to which I have referred, little recourse was had to internal remedies. I only recommended that a pill, composed of one grain of the pilul. hydrarg., and two grains of the pilul. colocynth., should be taken every night for ten or twelve, and then every second night during the cure, followed in the morning by magnesia, or such a quantity of Epsom salts as should keep the first passages in a clear state.

The regimen I recommend is light animal food, with plain boiled rice, light boiled eggs. I forbid malt liquor, vegetables, and fruit, and salted meat, but allow a couple of glasses of wine in 24 hours. I recommend sponging the body with tepid water, and rubbing it hard with a coarse cloth, in preference to bathing.

It is proper to mention, that the patient, who had been twenty months ill, was at the Strathpeffer mineral during his cure. That this invaluable water was of service, I am fully convinced; but that local complaints, such as I have described, would have in seven weeks disappeared, I have found no reason to believe.

Having mentioned the mineral of Strathpeffer, I beg leave to state, that I should have long ere now laid before the public some account of its uncommon virtues. But local as my communications have been, the resort of company exceeds the accommodation which exists. I, however, hope this evil will be removed at no distant period.

You will, perhaps, think that I have been unnecessarily minute in some of the directions I have given. For this I had two reasons. I wished to save trouble to the medical practitioner, and was solicitous that females, whose delicacy, when la-

bouring under cutaneous complaints, often prevents their early application for medical aid, might be enabled to profit by the rules I have laid down. It is on their account, too, that I have studiously avoided technical terms.

VIII.

Case of Hydrothorax, complicated with Disease of the Heart and Lungs. By Assistant-Surgeon HENDERSON, 13th Regiment. Communicated to Dr DUNCAN, Junior, Professor of the Institutes of Medicine in the University of Edinburgh, by JOHN HENNEN, M. D. F. R. S. E. Deputy-Inspector of Hospitals.

MY DEAR SIR,

I TRANSCRIBE the following case verbatim from the reports made to me from time to time, during the patient's life, which I conceive will render the communication much more valuable than if it had been prepared for the public eye after dissection had thrown a light upon its real nature.

Yours faithfully, J. HENNEN.

Queensberry House, August 1, 1820.

CASE of D. A., a soldier, aged 32.—This man had a smart attack of splenitis in February 1820. In three days he was relieved by the usual remedies, viz. bleeding, blistering, purgatives, and spare diet. On the evening of the fifth day he complained of pain in the right side of the thorax, attended with cough and increased vascular action; these symptoms were relieved by the further abstraction of 24 ounces of blood. About this time I observed the heart to be more to the right side, and stronger in its beat, than we usually find it; there appeared also to be an unusually strong action in the aorta below the diaphragm. His recovery was slow, having been in hospital from the 3d February to the 7th March; and, when discharged, he could only be considered as a convalescent. May 9, 1820. He was readmitted into the 13th Detachment Hospital, Glasgow.

Complains of great difficulty of breathing; pain, and sense of weight about the scrobiculus cordis, and along the whole of the left side of the thorax; frequent cough, which he says is loose;

pulse 108, small, but regular in its beat; skin of its natural heat; urine scanty, high-coloured, and at times very thick; tongue white; bowels generally slow; cannot lie on the right side, without greatly increasing the difficulty of breathing; rest much disturbed by frightful dreams, and sudden startings from his sleep; on turning himself, he is sensible of the motion of some fluid in the left side of the thorax, which side, on examination, appears evidently distended, and the ribs not near so distinct to the view as those of the right; the intercostal muscles appearing to be pushed out by the pressure of fluid within the chest. On causing the patient to move suddenly from side to side, I can distinctly feel the fluid strike against the intercostal muscles, at the same time the fluctuation is as distinctly heard at some distance from the patient; the heart seems enlarged, and is only to be felt on the right side; the aorta seems in a similar state of disease, and is felt strongly pulsating after it passes through the diaphragm.

States that his present complaint commenced about three weeks ago, and imagines it to have been occasioned by his having taken a large draught of cold water during the night.

Willing to try the effect of medicine in this case, though without any hope of success, the quantity of fluid appearing too great to be carried off by absorption, a purgative was prescribed, and he was ordered to take the following draught three times a-day.

℞ Pulv. scillæ gr. i.
Tinct. digitalis gtt. viij.
Aquæ ℥i. M. ft. haust.

For the first two or three days he felt easier, probably from his having been kept in a more tranquil state than previous to admission; but at length, his nights becoming more disturbed, and his strength appearing on the decline, I consulted Dr Burke of the Rifle Brigade, and several other of my medical friends, both military and civil, on the propriety of performing the operation of paracentesis, who were all of opinion that it was the only probable chance of prolonging the patient's existence. The operation was accordingly performed, at four P. M. on Thursday the 18th May, when four pints of serp-purulent matter were drawn off from an opening between the sixth and seventh ribs. The patient was immediately relieved. Late in the evening he had a slight febrile exacerbation, which soon subsided; he had a good night, undisturbed by dreams or starting. The following day his appetite improved; he was more cheerful; skin cool; pulse continued frequent, but perfectly regular; bowels were rather confined, in consequence of which, half an ounce of castor oil was administered, which brought

away two stools. He had another tranquil night, and on the 20th was perfectly easy; but, on examining the thorax, a similar noise to that heard prior to the operation is still perceptible on the patient's suddenly moving from side to side. No fluctuation can be felt, but, as far as we are able to judge, this noise proceeds from fluid contained in the pericardium. The heart is more *in situ*, and its pulsation can now be felt, though obscurely, on the left side. The state of his pulse varies from 112 to 120, but is firm and regular in its beat. He has much less cough, and the quantity of his urine has somewhat increased, and is now clear and free from sediment.

He has been ordered light nourishing diet, and the following powder three times a-day.

℞ Pulv. digital. gr. ¼.
——— scillæ gr. i.
Potass. supertart. ℈i. M.

After four days, the digitalis and squills were discontinued, in consequence of his appetite being on the decline, and ten drops of the muriated tincture of iron three times a-day were substituted.

June 1st.—Rest becomes unsettled, but not disturbed by dreams or sudden startings; cannot lie so well on the left side, his breathing being much affected while in that position; pulse 105, and firm; has two or three stools in the 24 hours, and passes about three pints of urine in the same time; coughs but little, and his appetite is better. Ten drops of the tincture of digitalis were ordered to be taken three times a-day; this quantity was increased to fifteen.

By the 5th the quantity of fluid on the left side of the thorax appeared to have much increased; pericardium also seemed to contain fluid, and was on the increase. The pulsation of the heart became more diffused; that is to say, it could be felt at a greater distance from the apparent situation of that viscus than formerly; indeed, its action produced a jarring irregular motion of the whole thorax, especially while the patient sat up in bed. His pulse was reduced to 100, but now, for the first time, irregularly intermittent. For three days this state of the pulse continued, and the fluctuation in the situation of the pericardium became more and more distinct; the increase of its size also appeared evident.

On the 8th, the spleen was observed to be pushed down by the weight of fluid on the diaphragm, nearly on a line with the umbilicus.

On the 10th, he became so much worse, that he seemed only to have a few hours to live; but, that his latter moments might be

rendered more comfortable, the operation was again performed at nine P. M., and eight pints of fluid, of a more purulent appearance than the former, were drawn off. The result of this operation was wonderful. He passed a good night, and was able next day to take more nourishment than he had done for some days prior to the operation.

This favourable change in the state of his health continued; and, on the 15th, perceiving that the whole of the fluid had not been evacuated, an opening was made between the sixth and seventh ribs, about four inches and a half from the vertebræ, (this being the most depending point,) and five pints more were drawn off; after which, a piece of sponge tent was introduced into the wound, with a view of daily discharging any further collection that might take place.

On the 16th he felt quite easy, and had passed a better night than any since admission into hospital. Not more than two drachms of matter were discharged at this dressing.

17th.—On removing the dressing, no matter appearing to come away, a small canula was introduced, and 14 ounces of a reddish coloured offensive matter were removed, at the same time a considerable quantity of very fetid air escaped.

18th.—About three ounces of matter discharged to-day, of a more healthy appearance, and less fetid. Appetite continues tolerably keen; skin natural; pulse 96, and firm; can lie equally well on either side, and says his rest is sound and refreshing. Spleen *in situ*; situation of the heart nearly the same as prior to the operation.

20th.—Matter daily discharged continues fetid, but is not more than 12 drachms in quantity. His pulse is more frequent, and his appetite a little capricious; bowels regular. At present he is taking half a drachm of bark three times a day; his diet is, in a great measure, regulated by his own choice, and he is allowed a small quantity of diluted spirits and a pint of porter daily.

21st.—Two ounces of matter came away with this day's dressing. Pulse 112, but regular; daily quantity of urine continues the same; breathes easy. Bark continued.

24th.—Matter discharged continues nearly the same in quantity, but less fetid; pulse varies from 110 to 116; but little alteration in the state of his health. Pergt.

26th.—Yesterday there was but little discharge; during the day he appeared low and uncomfortable; his pulse was regular but frequent. During the evening he got sick at stomach, and vomited the food he had taken; passed a bad night, and he is complaining more of debility than he has done for some time.

Three pounds twelve ounces of fluid, similar to what was drawn off, but less offensive, came away with this day's dressing. His respiration has since become more difficult, and his pulse is 120, and irregularly intermittent. Supposes the bark was the cause of his vomiting.

Omittr. cinchona.

Contr. haust anodyn. et sum. ter in die.

Tinct. mur. ferri gtt. x.

27th.—Not much rest; pulse irregularly intermittent, and his respiration is also frequent and oppressed; feels his chest uneasy. Bowels regular; continues to pass from two to three pints of urine, of a pale colour, in 24 hours. Coughs more than usual, and expectorates a considerable quantity of thick mucus. Appetite bad. About 1½ drachms of matter discharged to-day.

28th.—Has had a better night, appears refreshed, and in better spirits; pulse 112, firmer, and less irregular; breathes easier; appetite improved. Fourteen ounces of fluid discharged with this day's dressing. Pergt.

29th.—General health again seems to improve; pulse 108, without intermissions, but occasionally rather a lagging between each beat; breathes with ease, and continues to be able to lie on either side. Dressings were removed last night, in consequence of his feeling a little uneasy, when 12 ounces of fluid came away, and this morning eleven more.

A blister to be applied to the left side of the thorax, and kept open.

30th.—Pulse 106, regular and firm in its beat, is breathing with ease, and is in good spirits; appetite improves. Thirteen ounces of fluid discharged to-day.

July 1st.—Has had a good night; pulse as yesterday; breathes easy, and he appears, upon the whole, rather to gain ground. The cantharides produced some irritation on the urinary organs, which has again subsided; blister discharging. Only 12 drachms of matter came away to-day.

Contr. tinct. mur. ferri, et haust. anodyn.

2d.—Has had a bad night; pulse 110, but regular; breathing more oppressed than it has been for some time back, and he complains more of debility. Coughs a good deal, but his expectoration is free, and seems to be purely mucus. One pound thirteen ounces of matter, of the usual description, with many flakes of coagulated lymph, came away with this day's dressing.

Contr. tinct. mur. ferri, et haust. anodyn. h. som.

3d.—With last night's dressing 6 ounces of fluid came away, and 10½ this morning; pulse very frequent, weak, but regular; breathing becomes more and more oppressed; takes but little

nourishment, and seems rapidly declining; can lie on either side, but is generally on the left. Pergt.

Vespere.—Felt uneasy about the chest, the dressings were, in consequence, removed, and 14½ ounces of fluid came away; feels easier; pulse so rapid that it cannot be counted; extremities rather cold.

℞ Mistura camphor. ℥vj.
Æther. sulph. ʒij. M. ℥i. 2da quaque hor. sumend.

4th.—Makes no complaint; pulse continues rapid, but appears regular; is perfectly recollected, and seems sensible of his approaching termination.

Contr. mistura.

5th.—Continued gradually to sink, retaining all his faculties until a few minutes before his death, which took place without a struggle at 11 A. M.

Sectio Cadaveris.—External Appearance.—Very great emaciation; slight œdema of the feet.

Thorax.—Left cavity contained 2 lbs. 4½ oz. of matter, with large flakes of coagulated lymph floating in it; the whole similar to what was daily discharged. A pseudo-membrane, of about half a line in thickness, coated the whole cavity, and was thickly covered with purulent matter. The lung was much reduced in size; when removed from the body it weighed only 10½ oz., though it did not float in water, yet in appearance it was healthy, except at its upper and posterior part, where it adhered firmly to the pleura costalis, and contained in its substance an abscess which held from three to four drachms of pus. The lung was also adhering loosely to the pleura about the fourth rib, as also to the diaphragm. The opening made through the intercostal muscles and pleura by the first operation had completely closed, but that of the second remained open.

Right cavity contained about half an ounce of serum; lung generally free from adhesions, and seemed in every respect perfectly healthy, being of its natural size and colour, floating on immersion in water, and throughout pervious to air. When removed from the body it weighed 26 oz.—15½ more than the other lung.

Pericardium thinned, and adhering to the heart throughout its whole extent. The heart appeared to be of its natural size, as did also the vessels of this organ. The superior anterior portion of the right lung adhered slightly to the mediastinum, holding the heart to that side.

Abdomen.—Spleen of its natural structure and appearance, and perfectly *in situ*. Other viscera of the abdomen were also found in a healthy state.

In reviewing this interesting case, it appears, that 17 pints of sero-purulent matter were removed by the three punctures, and since the 15th of June 12 pints 4½ oz. came away, which, with the addition of 2 pints, 4½ oz. found in the chest "post mortem," makes the enormous quantity of 31 pints 15¾ oz. removed in 47 days.

On dissection, we were struck with the state of the heart and pericardium, having throughout regarded the former as enlarged, and the latter as containing a considerable quantity of fluid. Now I am convinced that the latter circumstance arose from our mistaking the small space that was unoccupied by the fluid in the chest for the extended pericardium, and had we punctured, as was at one time proposed, we should have done nothing more than we afterwards did, viz. evacuated the matter contained in the left side of the thorax.

During the course of the disease, the pulse varied much, and frequently without any evident cause. Respiration after each puncture was always relieved, and the patient could then lie on either side; but, previous to the evacuation of the fluid, I may say he could only lie on the affected side, the weight of fluid while on the right pressing too heavily on the sound lung to allow that organ to perform its natural functions.

From a circumstance that occurred during the first operation, I am inclined to think that the pseudo-membrane was then only forming, and very loosely attached to the pleura. In this operation the puncture was made by a lancet, and although the pleura was decidedly perforated by this instrument, yet, to our surprise, no fluid followed; a probe was then introduced, which seemed to break down the obstacle to the escape of the fluid, which, no doubt, was the membrane in question.

Remarks by Dr Hennen.

If proofs were wanting of the difficulties which the physician has to encounter, in distinguishing during life the real nature of diseases of the heart, we have a striking instance in the preceding history. I had an opportunity of seeing this very interesting case, at periods favourable for forming an opinion, viz. some hours *before* the second paracentesis was had recourse to, and early on the second day *after* that operation, when the fluid had not had time to collect again in any quantity in the general cavity of the thorax. In common with the reporter, and the other medical gentlemen who saw the patient, I never doubted of the existence of water in the pericardium; and I conceived that the case afforded a very favourable opportunity to ascertain the exact state of the symptoms which characterize the pure unmix-

ed dropsy of that sac, an occurrence so rare, that Morgagni doubts whether he ever saw it; * and Professor Frank of Vienna † asserts, that, in 100 cases, he never met with one where the fluid was contained *solely* in the pericardium. Mr Henderson's account is sufficiently indicative of the patient's state up to the 10th;—when I returned to Glasgow on the 12th, I made the following note of the case. The countenance of the patient was leucophlegmatic, his lips were somewhat livid, his eyes dull, and the general cast of his features expressive of having suffered great anxiety; while his motions and gestures were performed with considerable caution, as if to ward off some sudden painful sensation which might eventually occur. He lay on his back apparently without difficulty, he raised himself into the semi-erect posture, without exertion or inconvenience, and resumed the recumbent position with equal facility; nor did he seem to give a preference to lying on one side rather than another, for he once lay down on the right, and once on the left side, while I was examining him. While he lay on his back the pulsations of the heart were strikingly visible on the *right* side, extending over a circle, the diameter of which was four fingers' breadth, and its central point directly corresponding to the middle of the fourth rib. These pulsations at once suggested the idea of the heart beating in a bag of water, and the sensation conveyed to the hand, confirmed the opinion thus suggested to the eye, while the ear was forcibly struck with the sound of dashing water, occasioned by the patient's spontaneous motions. Although at the time no one doubted that *all* the fluid had been removed from the general cavity of the thorax, and that consequently this noise was produced entirely from the agitation of the fluid contents of the pericardium; yet dissection proved that a *part* of the water was prevented from running off by the interposition of the new formed membrane; and the noise was no doubt greatly increased by the admission of air through the puncture. A jarring or thrilling sensation was perceptible to the hand applied over any part of the thorax; and when placed lower than that cavity, and in the line of the descending aorta, the thrill was lost in a distinct stroke, apparently proceeding from the action of that vessel. When the patient attained the sitting posture, the circle of pulsation upon the right side was somewhat decreased, but when he lay down again it regained its for-

* Epist. 16. Article 20.

† "De Curandis Hominum Morbis Epitome." Tubingen, 1811. Tom. VI. p. 241.

mer size. The left side was in a state of œdematous tumefaction, but not so much so as before the operation; the posterior part of the thorax was still œdematous to a considerable degree. In whatever position percussion was attempted, the thorax emitted no particular sound. The pulse was 94, firm, and not at all indicative of the great organic disease which existed. The respiration, although not natural, was far from being hurried, and the heat of the skin was neither greater nor less than I should have expected in a person confined to bed with any other chronic complaint. On inquiring into these symptoms, a knowledge of which could only be derived from the patient's own communications, all his uneasy sensations seemed to have been so completely forgotten in the relief he experienced from the operation, as not to be noticed. "The oppression and load from the water was," he said, "quite removed, and he only felt weak and weary of his bed."

So effectually was I deceived by the sound of the dashing water, that I never allowed the idea of adhesion of the pericardium to enter into my speculations as to the cause of some of the symptoms of the disease, although I was well aware of the fact, that, in a great majority of cases, attended with pulsations in the epigastrium, that morbid state is the cause of these phenomena; for the heart is not only curbed in its motions, but the diaphragm is alternately elevated and depressed during the alternate contraction and dilatation of the heart, by which the repercussions of that organ affect the liver, and produce a pulsating tumour in epigastrio.* We have in military practice frequent occasions of seeing these pulsations. Sometimes in our examination of recruits or deserters, we find them merely as a nervous affection of the arteries, proceeding from fear, or from the effects of intoxication, but much more frequently they are the products of organic disease, accompanied with a care-worn unhealthy aspect, and although these persons often deny that they had ever been previously ill, the marks of frequent venesection in their arms, and the cicatrices of extensive blisters on the thorax, frequently prove that they had been under medical treatment for complaints of the chest. In veteran soldiers, also, they frequently appear, and can often be traced to previous inflammatory affections, the product of exposure to cold when overheated, and to intoxication. Hence, they are often met with in troops arrived from the West India Islands; and it is highly

* See Burns on the Heart, p. 62. Corvisart, Chap. I. sec. 2. Consult also the works of Lancisi and Vieussens.

probable that the disease of D. A. first came on under the appearance of splenitis, which he had long neglected, and perhaps aggravated by excess in spirituous potations, for he did not belong to the garrison of Glasgow, and consequently had not undergone the weekly health inspections which are now universal in the army.

Sometimes these diseases can be traced to local injuries, occurring in unhealthy habits. The first case of epigastric pulsation which I ever saw appears to have been of this kind. It arose in an old drunken dragoon, and was traced to a series of ineffectual attempts which he had made to spring upon the back of a kicking horse. The man died suddenly, in some time after I first saw him, and the military system of that day (1803) not enforcing dissection, I had no opportunity of examining the case. Since that period, however, I have had frequent occasion to inspect the bodies of persons known to have laboured under abdominal pulsation, but I never was able to detect disease in that system of vessels, and hence, I believe that they are much oftener the media through which morbid appearances are transmitted, than the actual site of disease themselves. Although tumours connected with, or in the vicinity of the arteries of the abdomen, occasionally occur, and communicate to the hand the sensation of an aneurismal affection, the cases where these sensations proceed from diseases of the heart are much more numerous, and adhesions of the pericardium I have found the most frequent of any.

In the case now before us, it was proposed to tap the pericardium, but I was not disposed to encourage the trial, for the state of the patient seemed to me to be such, that no possible advantage could have accrued to him from the experiment, as there was every probability of the existence of some organic affection of the heart and aorta. There appears to be some other considerations which should be taken into our calculation, before we have recourse to opening the pericardium, viz. the difficulty, if not impossibility, of supporting the parts, as we do when we tap the abdomen, and thus preventing the consequences of sudden depletion. In the paracentesis of the general cavity of the thorax after acute diseases, we can press the abdominal contents upwards, and the lungs, by their expansion after the fluid is removed, assist our purpose; but after long continued disease, dissection shows that the lungs are often disorganized and reduced to a very minute size, solid, shrunk, and incapable of resilience; besides which, it is doubtful whether the pericardium would be sufficiently elastic soon to recover itself so as to compress the heart as it naturally does.

To perform the operation, Senac proposed to push the trocar into the space between the third and fourth ribs, entering the point of the instrument two fingers' breadth from the sternum, and carrying it obliquely towards the origin of the ensiform cartilage, along the line of the ribs. Desault operated between the sixth and seventh ribs, opposite the apex of the heart; he conceived that he had entered the pericardium, but on dissection, it was found that he had penetrated an artificial sac, the product of inflammation. Laennec recommends us to trepan the sternum above the ensiform cartilage, but without accompanying his recommendation with any remark which might lead to the supposition that such a proposal had ever been made before. The trepannation of that bone, however, for the purpose of removing fluid contained in the pericardium, is a proposal as old as the days of Riolanus, who, in his Anthropographia, published at Paris, 1649, expressly asks, "Quidni ad locum adhesionis pericardii sterno, pyroticum escharoticum apprimetur atque tenuissima terebra sensim pertundetur, ut inclinato et prono corpore illius aquæ stagnantis portio exhauriatur?" Senac mentions the name of Riolanus, but with a looseness of quotation, almost peculiar to his countrymen, he never notices the previous steps of the operation, but merely says, in speaking of the point of perforation: "C'est à un pouce du cartilage xiphoide qu'on doit la tenter, selon cet ecrivain."* But even before the time of Riolanus, boring through some of the bones which surround the thorax had been practised, for we find that Hippocrates, in tapping that cavity, preferred perforating through one of the ribs rather than opening between them, and he then plugged the opening with a tent of soft sponge or flax, and let off the water gradually. †

A brilliant, though ultimately unsuccessful, operation, lately performed at Paris, has suggested the idea of attempting a radical cure of hydrops pericardii by injection, upon the same principle that we operate in hydrocele; but surely a moment's reflection upon the consequences of that complete adhesion, on which alone depends the hope of cure, will prevent an experiment of this kind from ever being had recourse to, although

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* See Senac, Traite de la Structure de Cœur, 4to, Paris, 1749. Tom. II. Liv. 4. Chap. 6. Desault Œuvres, par Bichat, Tom. II. p. 304. Laennec de L'auscultation mediate. Tom. II. p. 396. Riolanus Anthropographia, Lib. 6. Cap. 7. Nicholas Culpepper translated this work in 1657, and enlarges upon the propriety of tapping the pericardium in dubious cases.

† De Morbis, Lib. 2. Cap. 24. De Inter. Affect. Cap. 24, pp. 576 and 655. Opera Hippocrat et Galeni. Folio edit. Charter. Paris. 1679. Tom. VII.

it is not to be denied, that, in some cases, adhesions have been detected on dissection, where no palpitation had ever been complained of during life.

In no organ of the human body are we so often deceived in our diagnosis of disease as in the heart and its appendages. The researches of modern pathologists bid fair, it is true, to elucidate this obscure part of our profession, but I am convinced that many of our most current opinions still continue to be formed more from speculation than from actual research. We know the functions which the heart and each of its parts execute, and we form plausible conjectures of what would be the consequences of a cessation or an imperfection of any part of the performance, but we do not, and we cannot, know either the existence or the effects of minute derangement of that nice balance which regulates circulation, respiration, and animal heat. We are often deceived, even where the derangements of healthy action are more palpable, and where the causes which have given rise to them might fairly be supposed to be more cognizable to our senses. The records of our profession abound with such cases, but I shall select the following, as it appears more closely connected with our present subject than many others which I might produce, and fully shows how often we are destined to discover in the dissecting-room, appearances which we had never anticipated in the bed-chamber.

P. C., aged 25, originally a labourer, but for the last two years a soldier, of a slender but muscular make, tall, and rather narrow chested, applied to be received into hospital on the morning of the 14th of February 1820. He was then labouring under severe dyspnœa, with pain in the right side of the chest, and his pulse was so frequent and irregular as to give reason to dread approaching dissolution. He was immediately bled from a large orifice, and the blood was allowed to flow until he felt relief from pain, which did not take place until three pounds were removed; six additional ounces were allowed to flow, and he then complained of faintness. The good effects of this venesection were soon apparent, for the heat of his body, which had been very unequal, but generally below the natural standard, become more uniform, and his pulse could be counted. It was 92, and irregular; a few strokes hurried, and then a few slower. The breathing was still anxious, and he was obliged to be supported nearly in the sitting posture. The heart palpitated violently; and at each stroke a fluctuation of fluid within the thorax was clearly discernible. A large blister was applied over the seat of his pain, the pediluvium was directed, and a mild purgative was administered. By noon the bowels were opened; and, although the breathing was still anxious, and the pulse as before, the pain was relieved. By eight o'clock in the evening the pulse

had become more distinct; he vomited once, and had two bilious stools. The night was passed without sleep. Next day (15th) the breathing was still laborious, but the pain had not returned. He coughed, but did not expectorate. He was ordered an antispasmodic mixture, with nitrous ether; and at noon, as a violent attack of spasmodic dyspnœa came on, the venesection was repeated, but without affording much relief; the pulse, however, fell to 80, still irregular, and with strongly marked fluctuation in the thorax. A large blister was applied over the whole chest, and a pill of squill calomel and digitalis was occasionally administered, to which a small portion of tartarized antimony was afterwards added. He passed a very restless night, and next morning (16th) he vomited after his pills, and began to expectorate, rather of a purulent appearance: the breathing still very difficult. In the evening he became very anxious and restless; the pulse was indistinct, and the pulsations of the heart were so violent as to be plainly audible. Eight ounces of blood were allowed to flow from the vein which had been opened the preceding day. The night of the 16th was passed as restlessly as the preceding; and on the morning of the 17th he was evidently moribund, and expired at four o'clock, P. M.

The body was examined nineteen hours after death, and presented the following appearances:—In the abdomen the liver was a good deal enlarged, the gall-bladder was filled with a substance like tar. No other morbid appearances were detected in this cavity. The general cavity of the thorax was found *perfectly free of fluid*, but the pericardium was distended with one pint two ounces. The heart was small and pale. The lung on the right side was collapsed, of a dark sphacelated appearance, and contained in its superior portion the sac of a large abscess, in which a small quantity of matter was still contained. The left lung adhered in every part to the pleura costalis, and its substance was tuberculated throughout, or filled with vomicæ.

Here was a case of hydrops pericardii, without any effusion into the cavity of the chest, and a diseased state of the lungs, which rendered it a matter of surprise how the function of respiration could be carried on. The man had laboured under pulmonary disease before he enlisted, and he had an attack of pneumonia on first joining his corps, and another in the November preceding his death, for which he had been treated by a country practitioner. Of this no other traces were left behind except that his breathing was apt to be hurried on exertion; and so little was the real state of his disease apprehended, either by himself or the surgeon of his corps, (Mr Hamilton, 13th regiment, to whom I am indebted for an account of the case,) that he applied for, and had actually received permission, to visit his native country, Ireland, and was to have set out

on his journey the very day on which his death illness commenced. So rapidly did the symptoms then proceed, that all medical aid was in vain. His life, indeed, was evidently protracted by the bleeding, but such was the diseased state of the organs within the chest, that neither that, nor any other operation, could have averted his fate. It would be in vain to offer a conjecture as to the date of the dropsical effusion, but the quantity of fluid was infinitely too large to allow us to suppose that it had been of recent deposition.

I know of only one other case on record of hydrops pericardii unaccompanied with effusion into the general cavity of the thorax; it is related by Sidren, in the "Acta Med. Suecicorum," Tom. I. p. 407, but it differs from the present in as much as no appearances of disease either in the lungs, heart, or great vessels, were discoverable after death. The quantity of fluid in Sidren's case was about the same as in Mr Hamilton's.

IX.

Observations on the Use of Nitrous Acid as a substitute for Blisters. Communicated by Dr KENNEDY, F. R. S. E. and Fellow of the Royal College of Physicians, Edinburgh.

Extract of a Report from Mr Assistant Surgeon KILLETT, *of the 3d Regiment Light Cavalry, to the Medical Board, Madras, dated Mhow, 4th November* 1818.

IN my report to the Board for the month of July last, I gave an account of the spasmodic cholera, as it came under my observation, during the short period it was prevalent at this place.

In that report, I recommended bleeding and blistering as the remedies chiefly to be relied on, considering the disease to be a spasmodic affection of the stomach and bowels, accompanied with inflammation, and quickly followed by a diminution of the powers of the brain; and I hinted that the actual cautery might be employed with advantage, as producing a more instantaneous counter-irritation, than the slow acting emplastrum lyttæ. Since writing the above mentioned report, I have been informed by Mr Assistant Surgeon Powell of the Bombay Detachment, now in camp, that he has used the nitric acid to produce a quick counter-irritation, and with the best success. Of forty-one cases which Mr Powell treated in this way, six only died; and of nine

cases treated by an officer commanding a detachment, without medical aid, one only died, and this a woman six or eight months gone with child. The great good effects of this sudden and powerful counter-irritation were strikingly illustrated in the case of a European, who received immediate relief to the burning sensation at the stomach on the acid blister being applied; and who, the next morning, being annoyed with spasms of the extremities, requested the same remedy might be applied; it was accordingly done, and so great was the relief obtained to one leg, that he cried for God's sake to apply it to the other, similarly affected.

Another striking instance was that of a Lascar, seized while cutting wood a koss from camp, and who, on being brought in, was supposed to be past recovery, his stools passing away involuntarily, pulse imperceptible, and extremities cold; the acid blister was applied to the stomach, and the patient got well.

Mr Powell uses two parts of acid to one part of water, and with this mixture rubs the surface over the part affected, to such an extent as may be thought necessary; as soon as the patient complains of pain, he neutralizes the acid, by washing the surface with a solution of salt of tartar; the cuticle can now be easily detached, and leaves the cutis raw, upon which he applies a common blister to keep up the irritation. He employs, besides, small doses of camphor and opium, frequently repeated, to allay the irritation at the stomach; this, with emollient enemata, forms his whole method of cure. I will conclude with saying, that the (forty-one) patients treated with the acid blister were all admitted in such a state, that no blood was attempted to be drawn.

Letter to S. Heward, *Esq. Superintending Surgeon, Presidency, from* William Scott, *Surgeon, Madras.*

In a letter to the Superintending Surgeon, dated 8th April last, I noticed some of the effects of the nitrous acid, used as a substitute for cantharides blister in cases of cholera.

I have now the honour to enclose some remarks on the more extended use of that application, which, should you think them worthy of notice, I will be thankful to you to forward to the Medical Board. With this remedy in our hospitals, it should no longer in urgent cases be observed in the journals, that the "blister did not succeed," or, "the blister was applied, bu could not be kept in its place," for no circumstance can preven the *application* of the acid, and its *action*, when applied, cannot possibly fail.

Saint Thomas's Mount, 9th July 1819.

Remarks on the Use of Nitric Acid as a substitute for Blisters, by Mr Assistant Surgeon KILLETT.

WE hear much of the successful application of firing by the native practitioners; and it is common to hear a farrier say of a horse, "blister him, and if don't do, fire him, which never fails." The cautery is an ancient remedy fallen into disuse, but which nevertheless appeared to possess peculiar virtues.

Though, admitting the fact, that firing was more efficacious than cantharides blisters, I had no defined notions in what this superiority lay, but I could not impute it merely to difference in the *degree* of action, for the blisters used with horses seem often more painful than firing.

The substitution of nitric acid for cantharides blisters in cholera has given me opportunities of making some observations on its mode of action, which appear to me elucidatory of the subject.

Seeing the quickness of action of the acid in cases of cholera, and that it could be applied under any circumstances of frenzy or unruly conduct, I have been led to employ it in those cases of severe disorder in the stomach and bowels, consequent on excessive drinking, where the promptitude is of vital importance, and where common blisters are altogether useless and inapplicable; also in cases of acute and sudden pain from other causes, in hepatitis, and so forth; wherever the disease depends on spasm, or nervous irritation, the relief is *wonderfully sudden;* and when it is connected with inflammation, I think it is fully as certain, and more speedy, than after common blisters.

The pain, upon the whole, is represented as sharper than that caused by blisters, though some patients say not; but the chief point is, that it reaches its acme in two minutes; it continues severe for three hours, and in three more altogether ceases. It is in this *quickness of action* that it resembles the actual cautery, and to this therefore I impute the greater efficacy of both, for, it is reasonable to conclude, that the effect will be as the intensity of the cause; we may compare it to the shock produced by the *sudden* affusion of cold water on the surface, which, under a different management, may be altogether avoided.

But the acid possesses other advantages. Whoever has felt the tedious progressive pain of a blister, the wearisomeness and irritation produced, and the agony of motion; the sickness and disgust of the dressing, and the after sickly smell, itchiness, &c., will be disposed almost to suffer any pain rather than submit to a repetition; it is also obvious, that all these circumstances must have their bad effects on the patient. But the action of the acid

is essentially different; the application is over in a few seconds; the pain, though severe, is at least soon on the *decrease*; is not aggravated by motion, nor by friction; no dressing is required, and the patient is often free from all the trouble of his disorder before the cuticle is abraded.

I have not seen any occasion for the after use of cantharides. If the acid has been diluted with half its bulk of water, and applied lightly with a feather, the cuticle is stained of a straw or sulphur colour; in three days it begins to pucker, with a little serum underneath; a slight red ring surrounds the parts, and the cuticle comes off on the 4th or 5th day, leaving the surface like a common blistered part, with a few deeper streaks, where the cutis vera has been touched. But if the acid has been used undiluted, or has been longer applied, the cuticle becomes of a deep brown; it does not rise or pucker, as the subjacent vessels necessary for throwing it off, appear to be destroyed; the red ring forming on the 3d day becomes deeper and broader, and a portion of the true skin, of the thickness of sheep's leather, begins to separate in six or seven days. The parts are rather tedious in healing, but this, taking it in all its bearings, is no great disadvantage.

As no serous discharge ensues, the acid cannot be substituted for blisters, in cases where *this* discharge is the motive of their application; neither, of course, can it be admissible when a continued rather than intense counter-irritation is thought to be indicated. But in all urgent and acute cases, and especially where the patient is unruly or restless, the acid appears to me to possess advantages sufficient to recommend its general adoption in practice.

Saint Thomas's Mount, 30th June 1819.

X.

Case of Anasarca after Scarlatina successfully Treated. By William Steele, M. D. Canongate, Edinburgh.

On the 13th October 1819, Mrs Burns, Canongate, was attacked with scarlet fever. The heat of skin was greatly increased, and all the other symptoms of pyrexia violent. The usual remedies were used; to wit, bleeding in the first instance, the antiphlogistic regimen, with diaphoretic medicines and laxatives. She was convalescent on the 20th.

I was on the 25th sent for, and found her affected with an œdematous swelling all over the body; urine small in quantity, high-coloured, and depositing a farinaceous sediment; pulse 110, and irregular. I ordered the following medicines.

℞ Pulv. jalap. com. ʒi. Submuriat. hydr. gr. x. M. Capiat statim.

℞ Pulv. scillæ ʒss. Submur. hydr. gr. viij. Micæ Panis q. s. ad formandas pilulas xviij. Capiat i. ter in die.

Sumat etiam tinct. digit. gtt. x. ter indies.

On the morning of the 14th, her breathing remained the same; she could not lie in a horizontal posture; cough and an irregular pulse; passed since yesterday about ten ounces of water.

15th.—The swelling is considerably reduced; her breathing easier, and her pulse more regular; had made about lb. iss. of water, and slept better during the night.

Continued the medicines.

16th.—The swelling is much removed; sleeps well, and the urine increased in quantity.

Medicines continued.

17th.—Is recovering rapidly.

Continued the medicines.

20th.—Is convalescent.

Omitt. medicam.

On the 6th November, I was again sent for. I found the swelling returned to the full extent as before. Difficulty of respiration; an impossibility of lying in a horizontal posture; pulse 110, and irregular. Ordered the following medicines.

Pulv. jalap. comp. ʒi. Submur. hydr. gr. viij. M. Capiat statim.

The following was also given.

℞ Tinct. digitalis ℥ss. Acet. scillæ ℥ij. Spr. ætheris nit. ℥iij. Aq. cinnam. ℥iij.

Mittr. sanguinis ex brachio ℥xv.

Pilulæ scilliticæ c. submur. hydr. tertia quaque hora.

7th November.—Dr Abercrombie called on her in my absence; ordered the following medicines in a note he left for me.

℞ Tinct. digitalis gtt. cxl. Sp. Ætheris nitrosi ℥ss. Acet. potass. ʒvi. Aq. fontan. ℥vij. M. Capiat cochlear. i. tertia quaque hora.

℞ Pulv. jalap. ʒss. Pulv. submur. hydr. gr. viij. M. Capiat statim.

Pilulæ scilliticæ ij. mane et vesp. Venesect. rep.

8th.—Much relieved in her breathing from the bleeding, and the effects of the diuretic medicines. Pulse more regular, and fallen to 90; has been able to lie on her side for two hours at intervals during the night.

9th.—Is much better; swelling decreasing; her urine since yesterday increased lb. ijss.

10th.—Continues to recover; pulse 80; sleeps well in the horizontal posture; urine lb. iij.

Medicines continued.

11th.—Continues to improve in all her symptoms.

Continue the medicines.

12th.—Improving; urine lb. iijss.

13th.—Sleeps; improving.

Continue the medicines.

14th.—A little œdema still remaining on her ankles.

15th.—Recovering.

Continue the medicines.

17th.—Convalescent.

Continue the medicines.

20th.—Omitt. medicamenta.

XI.

Case of Dilated Heart, attended with an Hepatic Affection. By Ebenezer Gairdner, M. D. Dunfermline.

October 18, 1819.—William Templeman, æt. 32, weaver, Dunfermline, about 5 feet 11 inches high, fair complexion, blue eyes, body of a strong and muscular appearance, without much apparent emaciation. He reports, that he had been in general a healthy stout man before the present complaints came on, about three years ago. He acknowledged himself to have been addicted to considerable intemperance at times, particularly in ardent spirits. He has been, during his illness, at different times under the care of two medical gentlemen; had got some purgatives; his mouth had never been affected by any medicines which he had taken. For these last six weeks he had given up attending either of these gentlemen; but he had, during this time, been freely bled by an apothecary of the town five different times, and had taken some purgative medicines, without any relief.

He now complains of great pain and oppression, with fulness in the two hypochondriac and the epigastric regions; feels easier sitting than in the horizontal posture, but no peculiarity on lying on either side, nor is pain felt extending to either shoulder. On placing my hand on the left hypochondrium, an unusual and strong pulsation is distinctly felt, corresponding with that of the heart and wrists, which is 120 or 122, uncommonly full and strong, yet regular. He had with great difficulty walked about the third part of a mile to ask my advice. Respiration rather hurried and oppressed; countenance pale, or rather somewhat livid; expression anxious; conjunctiva whiter than natural, and partaking of the colour of the face; tongue somewhat white, but moist; not much thirst; bowels reported to be torpid.

Statim V. S. ex brachio ad ℥xxiv.

About 28 oz. of blood drawn with some relief, but which was only temporary.

℞ Submur. hyd. gr. vi.
Pulv. rad. jalap. gr. xiv. M. ft. pulv. mane sumend.

Oct. 19.—The powder has brought off a great deal of lumpy feces, which contained some matter, having the appearance of half-digested seeds. Pulse 98, full; other symptoms as before noted.

I now carefully examined him when lying in bed, and found a very considerable fulness and tumefaction, tense and somewhat hard, in the regions above mentioned, which, on the slightest pressure, gave great pain.

The powder (calomel comp.) was ordered to be repeated for several successive mornings, and alternately with

℞ Sulph. potassæ c. sulphure ℥ss.
Sulph. magnesiæ ℥i. Solve in aq. fervent. lib. ij. Sumend. in vicibus part. ad dejectiones plenas;

which gave at times some relief as to the uneasy sensation of fulness. He would not allow a blister or seton to be applied. I enjoined great temperance, and a spare diet of food of easy digestion, bordering on the antiphlogistic regimen.

28.—Symptoms by no means abated. Bowels had, since the last report, been kept open by the above noted cathartics; otherwise there was much torpidity; though the feces were at times somewhat more natural, yet they were still inclined to be lumpy, and of the same kind as above noted.

Nov. 1.—I now ordered, after one or two more brisk purgatives, a course of mercury, in the forms of pill and ointment, to be administered. Diet to be a little more nourishing.

7th and 8th.—The mouth began to be somewhat affected, on which the pill was omitted, and a smaller quantity of the ointment rubbed in. About the 15th the ptyalism and irritation was reported to me at Edinburgh (for I was obliged to be in Edinburgh for a few days) by the apothecary to be so severe, that I advised that the mercury should immediately be altogether omitted.

19th.—I found that the ptyalism had nearly ceased; the symptoms originally noted by no means alleviated, with a considerable and marked increase of prostration of strength, yet no apparent emaciation of body; pulse 100, feebler than formerly, and regular; countenance very anxious; a disposition to sweating; the sweat now broke out profusely in my presence, on his taking a full inspiration; feet œdematous; dyspnœa on lying horizontally; stools as before, and only to be procured by cathartics; urine nearly natural, rather sparing in quantity; tongue moist; some thirst; sleeps little from the pain and sense of fulness. The pil. scillit. and a drink made of the supert. potass. and the occasional and free use of the compound mixture of salts were ordered. At his earnest request, a small wine-glassful of gin, in the form of weak *toddy*, was allowed to be taken once a-day.

28th.—Œdema of feet less; urine more free; other symptoms as before; pulse 92, strong; the pulsation felt also strong in the left hypochondrium; considerable craving for food, which had been occasional throughout.

The squill and the cream of tartar drink omitted. Continue the free use of the solution of the compound salts daily. To allay pain and irritation, and to solicit sleep, the tinct. opii, and embrocation with opium, were allowed to be freely used. Spare diet, as on the 19th October, was again enjoined.

December 1st.—Symptoms nearly as last reported; strength, however, not apparently diminished; pulse 96, strong and full; œdema not further reduced; bowels only to be moved by the compound salts, or the compound calomel powder, which brought off feces as before noted. Digitalis, one grain of the powder, in a pill, was now ordered to be taken twice a-day, which, on the 8th day after its use, reduced the pulse from 96 to 86, and suddenly, since yesterday, to 74, and of much less strength; œdema of legs rather diminished; urine free.

15th.—He is in great pain; great fulness and tension felt at the regions above noted, and also as if by the arch of the colon; countenance very anxious, respiration hurried; pulse irregular; some considerable convulsions, and he seemed about to sink in my presence. Ordered an enema to be immediately administered, with embrocations, and to be followed, if possible, by full

doses of the compound powder of calomel, which brought off much feces of the same nature as that before noted, with some blood, and which gave great relief.

16th.—The powder was this morning repeated with good effect. He has rallied somewhat, and is now comparatively much better. Pulse 82, full and regular. Ordered the powder and the compound salts to be used freely; and also the pil. digitalis, as may be necessary.

25th.—Nearly as by last report; bowels kept pretty easy by the powder and salts. The pil. digitalis has been taken again for some days past.

January 3d, 1820.—He has again fallen back, reported with symptoms as noted on the 15th ultimo, with some convulsive fits; pulse now 86, strong and regular. Repeat the pil. digitalis; continue the compound calomel powder, and the solution of compound salts.

4th.—He has again rallied a good deal.

6th, 12 o'clock M.—He continues better, but the original symptoms continue as they were; he is in good spirits, and walking about.

7th.—It is reported, that, soon after my visit, towards one o'clock P. M. yesterday, he said that he was hungry, and shewed some impatience, and a desire to have his dinner before the usual hour. He supped three full halfmutchkins (about 21 ounces) of broth made of pork, barley, and *greens*, with upwards of half a pound of the meat; about three hours afterwards, with equal avidity, he took two cups of tea, and two rounds of a threepenny loaf of bread with butter, and afterwards a small wine-glass-full of gin, in the form of *toddy*, not much diluted. He afterwards slumbered, sitting upon his chair (which he had always been disposed to do, for a short time after taking his dinner, or any hearty meal) for an hour or so. About 10 o'clock he said that he felt the fulness and tension at the epigastriac and hypochondriac regions very bad, otherwise, he declared himself to continue to be rather unusually well, as he had been throughout the day. He then took a cupful of the solution of the compound salts, which he immediately vomited (rather an unusual occurrence with him) upon the floor. The matter vomited, his wife, an intelligent woman, particularly examined, and she remarked it to be mere fluid, mixed with a good deal of phlegm, and tinged with some blood, but none of the food which he had taken appeared, at which, at the time, she rejoiced, suspecting that he had eaten too much. He afterwards tried to lie down in bed, but remained very uneasy. About 4 o'clock this morning, after that he had been quiet, and

had gotten a little rest, he said that he felt a strange sensation and much swelling at stomach, losing the power of his feet and one arm; yet he was quite sensible of what was said and done to him. He soon also lost the power of speech, and died.

8th.—*Sectio Cadaveris.*—In this I was assisted by Dr Spence and Mr Macara the apothecary. It was by considerable address that permission was granted to do this; a brother of the deceased attended, which circumstance curbed somewhat the freedom of our investigation.

The appearance of the body throughout was natural; no discoloration of any part, only much œdema of the lower extremities.

Abdomen.—Some effusion, but in no great quantity; omentum nearly absorbed; peritonæum, mesentery, and intestines natural; little or no flatus; stomach empty, and quite healthy.

Liver much enlarged and rather hard; colour nearly natural; some lymph on the upper surface of the left lobe, and adhering to the diaphragm. The organ extended more than usual into the left hypochondrium, as if the left lobe was more than proportionably enlarged; no appearance of ulcer or abscess, or of any destruction; gall-bladder full of bile, nothing particular; weight of the liver and gall-bladder $5\frac{3}{4}$ lb. Dutch, or $100\frac{5}{8}$ ounces.

Spleen.—Enlarged, and much hardened; weight $1\frac{1}{4}$ lb. Dutch, or $21\frac{7}{8}$ ounces.

Pancreas was with some difficulty discovered, it being so small as only to be distinguished, yet it shewed no disease. Kidneys full size, and quite natural. Neither the liver nor the spleen, when cut into, shewed any marked congestion of blood; nor did any of the vessels of the chylopoietic viscera appear to shew any such thing.

Thorax.—Some effusion, but not material.

Heart, very large, and of proportionable size and texture in all its parts and cavities, rather wanting a due proportion of fat; on its surface there appeared no lymph or any adhesion to the pericardium; some little ossification of the sinus Valsalvæ of the pulmonary artery, of an oval form, of three-fourth parts of an inch in diameter. Indeed, the general appearance of this organ, as to size, was more that of the heart of an ox than that of a man, yet we were struck on viewing it in all its parts, with its singularity, and beauty, and due proportions, as if the organ had been looked at through a glass of a considerable magnifying power: weight $2\frac{3}{4}$ lb. Dutch, or $48\frac{1}{8}$ ounces. We regretted much that our attendant would not allow us to carry it away.

On the whole, there was no appearance of a general or particular emaciation of the body excepting what is noted.

On afterwards inquiring further into the preceding history of this man, and before those complaints commenced, it was said that he had been considered a bold and active man, and inclined to dissipation. When in bed he preferred to sleep rather in the sitting than in the recumbent position, which circumstance was by his wife and friends imputed to a bad habit which they imagined he had acquired from his mother, who had been observed to sleep generally in this position; and during sleep he very often, when in his usual health, was observed to be subject to night-mare and startings, and to occasional convulsive affections. It was observed, generally, that his appetite was very good, rather voracious; skin also moist, and perspiration freer than usual when he was making any moderate exertion, and it was remarked to have a strong fetor, and to stain his linens so much that they could not be washed so clean as other linens: his strength was not, however, impaired by such perspirations, nor by any considerable exertion.

Such is the history of the case, so far as could be obtained. In a pathological point of view it may be considered of some interest. From the first view of the patient, and observing the symptoms as marked on the 18th and 19th of October, I was inclined to note it as a case of hepatitis; the indications did not then appear to me so decided as to justify the conjecture of an organic affection of the heart, unless the continued strength of the pulse, and the pulsation felt at the left hypochondrium may be so considered, but this was endeavoured to be accounted for in various ways, as symptomatic of the primary disease.

Corvisart has, however, observed, that the liver and spleen, being gorged with blood from an *acute aneurism* of the heart, those organs may become enlarged, attended with pain, and in time still more so by their pressure on the descending cava; and that this enlargement and pain felt at the region of those organs may mislead the practitioner in supposing the disease hepatic. But unless that we were much deceived in our estimate, and considering further what is noted in the dissection, also the colour of the body, which Corvisart himself, with some others, have observed to be red and bloated in such cases of dilated heart, this author's conclusion cannot be here drawn.

May not then a somewhat enlarged heart be considered here as the original formation of that organ, which, both from its unusual strength and capacity, contributed to give an extra-impulse and a force to the whole system, even to the extreme ca-

pillary vessels? Hence the facility of digestion and exhalation, and probably by intemperance, plethora, inflammation, and the hepatic affection; and the liver with the spleen having become in consequence enlarged, and these pressing upon the pancreas, destroyed at last this organ, and, also pressing upon the descending aorta, which I regret we were not permitted to examine more minutely, forced the naturally powerful heart to still greater action; thus, being further excited, it becomes larger.

Or, may the *Hypertrophia cordis* and the hepatitis be considered as originally distinct diseases, but both tending separately to increase and to aggravate each other, or, acting combinedly, to produce the ultimate effects, as these appeared in the case?

The torpidity of the bowels, and the peculiarity of the fecal discharge, which were so marked, may be accounted for from the state, not only of the liver, but also from the almost complete destruction of the pancreas; although it should not be forgotten, that a torpidity of the bowels is noted by several writers on such a disease of the heart as a common symptom. But the cutaneous exhalation being great, may occasion a slow alvine discharge; and the slow alvine evacuation may account for the peculiarity of the matter perspired in this case; and this peculiar state of the pancreas, may it not have been *ab origine* so formed?

In regard to the secretions in general, it may be observed, that all the writers I have seen, seem to have noticed only some of these; and, in particular, in cases of dilated heart, no notice whatever is taken of that of the skin.

Give me leave to add, that it might be gratifying, and highly useful to many of the profession, to be favoured with any observations on this or any other case of a similar nature, seeing that the pathology of the heart is so important, but so obscure, that few of our great systematical and nosological masters have gone into the investigation. Although the labours of many eminent men furnish much valuable information on this subject, yet these are detached; and the observations of some of them are not without contradiction and unsatisfactory hypotheses. *

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* The case of J. C. described in Dr Duncan junior's Clinical Reports, p. 54, was found to depend upon an enormously distended heart. He lived almost a year after leaving the hospital, but except that he became generally dropsical, nothing is known of the subsequent progress of his symptoms.

XII.

Case of Uterine Hemorrhage supervening on Instrumental Labour. By WILLIAM CAMPBELL, M. D. Fellow of the Royal College of Surgeons of Edinburgh, and Lecturer on Midwifery, &c.

ON Friday, June 24th, at 4, P. M., I received a note from Mr N., requesting my attendance on his lady, who had been then some time in labour of her first child, and was from the commencement attended by the only midwife at present employed by the better ranks in town. On my arrival I found the head fairly in the pelvis, but without making the smallest pressure upon the perinæum, even during pains. The membranes were still entire, containing a limited quantity of *liquor amnii*. There was not the least puffiness of the scalp, which shewed clearly that the head was not exposed to any pressure, although the infant seemed, as it afterwards in fact proved to be, far beyond the usual size, weighing, to all appearance, from 12 to 13 lbs. avoirdupois; but the serious event of the case prevented my placing it in the scales to ascertain the correct weight; it is sufficient, however, to mention, that it was considered by every one as remarkably large.

The capacity of the pelvis at the brim must have been considerable to admit the transit of so large an infant, and that of the outlet was equally so. There was no tumefaction of the soft linings of the pelvis, nor did the patient complain of the slightest feeling of pain or tenderness on examination, from which it was manifest that there was no injurious pressure on the soft parts within the pelvis. The patient had no headach; the pulse was about 100, but quite soft and equable; the surface was generally and plentifully covered with perspiration; the strength good; and uterine action regular; the pains recurring every five minutes, although they were by no means strong.

Under these circumstances there was no necessity for applying instruments, and I accordingly declined having recourse to them, although they had been recommended previous to my being sent for, and no doubt from the best motives. I was in great hopes, from the powers and cheerful spirits of the patient, that, by assiduity and encouragement, uterine action might become more effectual, and that the natural efforts would ultimately succeed in accomplishing the delivery.

Ever since I began to practise midwifery, I have always preferred watching my patient to every idea of suiting my own convenience, and I endeavour to impress this principle in the strongest manner on the minds of my pupils. There is nothing which appears to me so totally void of principle and delicacy, as the premature or unnecessary use of instruments in the practice of midwifery. No desire, therefore, for operating, however ungovernable; no desire for steeping our hands in the blood of our fellow-creatures, however sanguinary; nor the wish for detailing cases unparalleled for danger, however strong our inclinations may be for relating the marvellous, should ever induce us to have recourse to instruments, without absolute necessity. By acting otherwise, we may please the ignorant, and we may acquire temporary reputation by exposing the lives of our fellow-creatures to imminent danger, or by actually sacrificing these lives; but this ill-acquired fame cannot fail to be followed by permanent and merited disgrace.

In the present case, I was still farther encouraged, by the short duration of labour, to delay the use of instruments a little longer; for although I had been informed, on my first arrival, that the lady had been in labour nearly a day and a half, I found, upon more minute inquiry, that uterine action could scarcely be said to have been properly established before half past four A. M. of the same day; because, when the midwife examined at eight A. M., the uterine aperture was only dilated to the extent of a half-crown piece, which, according to the laws of dilatation in primary labours, might be said to require a space of three hours and a half. I say primary labours, because it is only in them that those calculations can be at all relied on, and even in primary cases a practitioner would be occasionally much deceived if he trusted to such rules.

As there was not a single symptom present to create the smallest uneasiness, I took leave of the patient with every confidence, under a promise of seeing her again at six P. M., and I requested, that, during my absence, the apartment might be kept properly ventilated. I also advised every effort to be made to inspire her with confidence, with a view, by the stimulus of hope alone, to render uterine action more powerful; the good effects of which I have had many opportunities of witnessing.

On my return at six, I was informed that the pains were somewhat stronger; that the head had advanced a little; and that the patient was still perfectly free from every symptom of uneasiness; but, from motives of delicacy, she declined seeing me until eight P. M., when she requested that I should again repeat my visit. I was also given to understand, that the mem-

branes were still entire, therefore I requested the midwife to rupture them, with a view to promote uterine action. When I returned at eight o'clock, I found the patient in every respect as at my last visit, except that the head was so far advanced as to render the perinæum tense during a pain. I still thought myself justified to afford the natural powers an opportunity of completing the process, more especially as there was no unpleasant symptom present. At this time the patient's strength was still good; the uterine action, however, was by no means powerful, but she supported this anxious protraction of her sufferings almost without a murmur. I again took my leave, but with a determination to return at ten, when I promised to remain by her until she should be relieved.

On my return, I proposed examination, which was acceded to. I then found that the pains were very little increased in power, although they were regular, but that the head had advanced so far as to make the perinæum a little tense during a pain. Under these circumstances, I sat down by the patient, and intreated her to bear all with fortitude and patience, for I could easily perceive that she began to labour under a slight degree of despondency. From this time, until two the following morning, I remained constantly by her, using every argument likely to support her spirits; but still the uterus remained inactive, for I could scarcely say that there was any advance of the head. The head had now been fairly in the pelvis for ten hours, that is, from the time I first examined, however long before that; and I began to be apprehensive lest the infant might be lost from long continued pressure; or that the powers of the uterus might be so much exhausted as to render it incapable of contracting after the birth of the infant; and that I should thus be risking the lives of both by trusting any longer to the natural efforts. I thought sufficient time had been already afforded for the natural powers to complete the process, and, as there was yet very little increase of the uterine action, I was of opinion that no one could accuse me of acting too precipitately if I were to use the forceps. In proposing this alternative, it is evident that my principal objects were to save the infant, and the further exhaustion of the uterus; because there was not a single symptom present which could prompt the most timid to have recourse to instruments. I accordingly proposed the application of the forceps, and, after having explained my reasons for this proceeding, my advice was readily complied with. From the time the instrument was warmed and lubricated, until it was properly applied and locked, not above three minutes elapsed. I now began to extract, and repeated my efforts, during every pain, for

an hour, *i. e.* until three o'clock, when I succeeded in extracting the head. I at first used moderate extracting force, but increased it gradually; and, during the last forty minutes, which this part of the process required, I exerted all the power I was capable of, for I found that I made little or no progress by using moderate exertion.

After the head was extracted, I then caused the abdomen to be rubbed, with a view to promote the action of the uterus, and, if possible, have the rest of the process accomplished by the natural powers; but in this I failed, for, after waiting ten minutes, there was not the smallest advance of the body of the infant. No part of the funis was entwined round the neck of the infant as often happens, otherwise I should not have delayed so long, lest the circulation in the chord might be interrupted.

Seeing, therefore, that there was no advance of the infant, I insinuated my left fore-finger into its left axilla, or that resting upon the perinæum, and applied a soft cloth under the chin and round the neck, so that, while I extracted by the aid of the cloth, I was, at the same time, better enabled to accommodate the shoulders to the outlet, and extract the body of the infant in the proper direction, by having my left fore-finger in the armpit. I accomplished the extraction very easily in this manner, and, to my great satisfaction, the child was still living, but with considerable suffusion of face, and a slight degree of torpor, which last, however, was by no means remarkable, considering that the head had been longer than eleven hours in the passages, and that it was exposed to great pressure while embraced by the forceps.

After the infant was separated from the parent, I proceeded to ascertain the state of the uterus and placentary mass, having previously administered half a wine-glassful of brandy as a cordial to the patient. On laying my hand upon the abdomen, I could very distinctly feel the uterus, like an immense flattened pouch, and I could equally also feel the placenta contained in it. Frictions to the abdomen were now had recourse to, as also a moderate degree of extracting force applied to the chord, but neither had any influence in exciting the action of the uterus. On pressing upon the uterus moderately firm, I heard a sort of gurgling noise in the passages, and, immediately afterwards, observed a stream of blood flowing over the side of the bed. These appearances left no room to doubt the existence of hemorrhage, which was further confirmed by the aspect of the patient and state of the pulse. I instantly prepared to introduce my hand into the uterus, which was pouring out blood in profuse quantities, and, on reaching the placenta, discovered that

the greater part of it was detached, giving rise to the discharge of blood. I pressed upon the sides of the uterus, in different directions, with the back of the hand, in order to rouse it into action, but without any effect; so very great was the state of torpor under which it laboured. It now occurred to me, that if I were to remove the mass entirely, the irritation caused by detaching it from the uterus might occasion the contraction of this viscus; or, at all events, that after its removal I should then be enabled to press more immediately with the back of the hand upon that part from whence the flooding was most profuse, and, in this manner, moderate the flow of blood, and, by continual pressure, promote the contraction of the part.

I immediately, therefore, removed the mass, in doing which I encountered very little difficulty, because it did not adhere from morbid structure, but merely from want of uterine action to detach it. This step had no effect, for some time, in recalling the action of the uterus, nor yet the continual pressure of the clenched hand in different directions, so that the flow of blood continued for a while almost unabated, and the patient was sinking fast; the pulse became more and more indistinct, and at last left the wrist entirely for about twenty minutes; there was universal coldness; and the patient lay quite insensible, at first gazing wildly around her, but ultimately seemed as if asleep, with the eyes half open and contorted, and breathing under great restraint.

When we compare the present moment, where the mother is on the eve of sinking from hemorrhage, to that of the prospects of the family but a little time before, where every one was overjoyed at the unexpected event of the birth of a living infant, while the parent herself was perfectly free from any feeling which could give rise to the least alarm; all will admit that my situation was by no means an enviable one. The mother giving birth to a living infant was an unexpected event to the attendants, for they could not be made to believe that the child could be alive after the powerful efforts which I was compelled to exert, in order to complete the delivery; and, I confess, my own hopes were not very sanguine on this point. What rendered my situation still more unpleasant in this case was, that, had the patient sunk, of which there was every appearance, her husband must have received the news perfectly unprepared; for, it is clear, that I could not draw my hand from the uterus to go and inform him, and I felt averse that he should be made acquainted with it through the medium of a third person. I, therefore, determined that he should learn the actual state of matters from myself at the patient's bed-side, in doing which I also felt much

reluctance, but there was no alternative. When he came he inquired if I wished for more assistance; upon which I expressed a desire to have some one sent for, who might justify the practice I had adopted, as well as that which might be afterwards found necessary in the event of the patient reviving.

This step I conceived indispensable, in order to prevent any blame to which it was probable the sudden and serious aspect of the case might give rise. An experienced practitioner was accordingly sent for; but, by the time of his arrival, the uterus had contracted a little, so as to give a very considerable check to the discharge; the pulse had returned to the wrist, and was becoming progressively more distinct; and the patient made unsuccessful attempts to reply to questions asked her. She, however, laboured under a considerable degree of mental aberration until mid-day, and it was not until the evening that her voice was at all audible at any distance from the bed-side. The gentleman alluded to grasped the uterus through the abdominal parietes, while I continued to make counter-pressure internally with my clenched hand, and, at a few minutes past four o'clock, I was enabled to withdraw my hand from the uterine cavity where it had been for a full hour. On withdrawing my hand from the uterus, I brought away a considerable quantity of coagula, and I am certain that my calculations are considerably within bounds when I say that the patient lost 64 ounces of blood, by far the greater part of which came away during the first twenty minutes.

From the moment I perceived that there was hemorrhage, I *forced* the patient to swallow a wine-glassful of undiluted whisky every five minutes, until I felt the pulse return and the uterus contract; so that, including the brandy given immediately after the extraction of the child, I have no hesitation in saying that she took in all 13 oz., making allowances for the proportion that must have been lost in forcing her to take it. While I endeavoured to renew the contractions of the uterus in this manner, by pouring into the stomach so direct a stimulus as ardent spirits, I also had recourse to another practice, which I intended to act more immediately upon the uterus. This was throwing two parts of spirits and one of water into the rectum by means of a common glyster-bag and pipe, which was repeated four different times during the flooding; but I do not think it was attended with any benefit, for I did not feel the uterus contract in the least by it. So completely, indeed, was the whole system paralyzed by the great loss of blood, that the *sphincter ani* had no power in retaining the injection; and it would have returned every time, immediately on withdrawing the pipe, had it not been prevented

by pressing upon the anus. During this trying scene, the abdomen was firmly pressed upon, and also rubbed immediately over the uterus through the medium of a towel occasionally immersed in spirits. After the discharge had been checked, and the hand withdrawn from the uterus, the abdomen was then firmly bound up by means of the common binder; a couple of towels having been previously folded in form of compress, and placed over the uterus, in order to secure the contractions of this viscus. Strict injunctions were then delivered to the attendants to keep the patient perfectly quiet, and five grains of camphor, in form of julep, were administered every second hour, with a view to support the powers of the system, and promote the contractions of the uterus. The camphor was given for the whole of this day and the following, and the patient continued to recover rapidly. No symptom supervened, indicative of the bad effects of the application of the forceps, or of the exhibition of so large a proportion of ardent spirits, although such a thing might have been expected; nor was the great loss of blood found to be attended with any other unpleasant effect than debility, from which the patient gradually recovered. So effectual and rapid, indeed, was the recovery, that the lady was able to leave her bed to have it made on the fifth day after delivery. The milk appeared about the usual time, without being preceded by scarcely any symptomatic fever; which, after the first delivery, is usually severe, but which, in this case, must have been moderated by the loss of blood.

Hemorrhage to the extent here stated will, no doubt, be considered by some as of little consequence, and deservedly, if we are inclined to believe that women in the puerperal state have been known to support the loss of so large a quantity of blood as two wash-hand basons full evacuated in a state of coagulation from the uterus soon after parturition; or the still more enormous quantity of a chamber-pot full every day for a fortnight. I may, however, be allowed to remark, that such assertions border too much upon the marvellous to induce many to waste time in refuting them.

There is great room for comment in this case, especially on account of the mode of practice pursued having been different from that which is recommended by the most eminent practitioners of the present day, and the profession may, therefore, expect that I should offer some explanation of my conduct. It is not my intention, however, to enter into an elaborate discussion respecting the principles upon which I acted; that I shall leave to the gentleman who witnessed the case, and by whose opinion I was guided in the present instance. I shall

therefore conclude, by making a few brief remarks on the practice at present inculcated by the first authorities, taking it for granted, that the medical world at large are aware, that for years past it has been customary to exhibit solid opium in uterine hemorrhage, in such enormous doses as five grains every four or five hours, or adequate quantities of this medicine suspended in spirits. Opium is administered by the advocates for the practice, upon the principle of its supporting the *vis vitae*, and suppressing the secretions; and as it has been extolled by some high authorities, this has been thought sufficient recommendation for its use by the generality of the profession, many of whom, like true empirics, have never given themselves time to consider, whether it was exhibited upon proper theoretical principles or not, but have proceeded to administer it, on every occasion like the present, in doses equalled only by the natives of the east. While opium is administered with such prodigality, and under such plausible ideas, its advocates appear to have overlooked, that it has the effect of suppressing the contractions of the uterus, and that it is exhibited daily with that very intention, as in cases of lingering contractions; irregular action of the uterus, such as spurious pains, and hour-glass cases; and in the operation of turning, in order to suspend uterine action and enable us to extract the child, without risking a rupture of the uterus. It may therefore be asked, how, in the name of common sense, can opium be either safe or beneficial in any stage of uterine hemorrhage, where our principal object is to establish or promote uterine action, by which alone hemorrhage can be suppressed. But by cautiously throwing in so direct a stimulus as ardent spirits, we are enabled to support the *vis vitae*, and at the same time instantaneously excite the action of uterus, by the powerful stimulus which is thus imparted to the system; while we effectually avoid every risk of inducing torpor of the uterus, which is sure to follow an over-dose of opium.

The practice of administering ardent spirits in hemorrhage may appear a very harsh one; but I feel persuaded, that, had opium been given to this patient, she must have sunk in consequence; and, however unfavourable the method of treatment adopted in the present instance will be viewed by some, another case has occurred since, where the symptoms were equally alarming, and the same practice pursued with equal success. I shall very briefly detail the outlines of this last case. Mrs Bird, No. 3, Englis's Entry, Fountainbridge, a woman of low stature, and rather delicate, fell in labour of her fourth child on the evening of the 10th of July, and was attended by Mr

George Tod Moxey, surgeon, a very intelligent young gentleman, at that time one of my assistants for the summer course. The labour was extremely tedious, and the head remained so long in the pelvis, exposed to such a considerable degree of pressure, as to occasion much tumefaction of the scalp, which made me apprehensive lest the infant might be destroyed if the head were allowed to remain long in this situation. On this account, I deemed the use of the forceps necessary, and the head was extracted in fifteen minutes after the application of the instrument. The uterus laboured under great torpor, and felt no disposition to contract, which induced me to have recourse to frictions of the abdomen. This excited trifling uterine action, and partial separation of the placentary mass, which last gave rise to hemorrhage. So profuse, indeed, was the hemorrhage in this case, for some minutes, as to flow over the bed-side in very copious streams, similar to what happens in those cases where there is a large quantity of liquor amnii. The pulse left the wrist for several minutes, and it continued feeble for many hours after, but the patient did well during her confinement, with the exception of a slight threatening of suppression of the lochia, on the third day, which yielded to the usual means. So complete was the recovery in this case also, that I met the patient in the street on the 12th day after her delivery, although she must have lost at least 56 ounces of blood.

XIII.

Case of Fungoid Disease. By William Norris, M. D. Stourbridge.

February 6, 1817.—Mr ——, aged 59, apparently in good health, applied to me in consequence of the inconvenience he felt from a tumour, situated nearly mid-way between the umbilicus and pubes. He told me there had always been a mole exactly in the same spot, and that, nine months ago, the skin around this congenital mark assumed a brownish hue, and that from the part thus discoloured a tumour began to arise. On examination, I found the swelling was nearly of half the size of a hen's egg, of a deep brown colour, of a firm and fleshy feel, ulcerated on its surface, which discharged a highly fetid ichor-

ous fluid. The apex of the tumour was broader than its base. Some few months after the appearance of this tumour, distinct nodules sprung up around it, some with slender necks, others with broader bases. This singular production was at length removed by the knife, and the wound went on favourably, and healed. In less than six weeks the tumour again began to grow from the cicatrized surface, and felt hard and semi-cartilaginous, and very soon minute tubercles, of a livid colour, surrounded the tumour; some of them separated from, and others growing into, each other. Of the latter sort there were at least forty in number, forming a mass of disease extending nearly from the spine of one os ilium to the other, and bearing a resemblance to a large bunch of dark-coloured grapes, some of them flattened on the surface, and of various sizes. The prominent scirrhous-looking tumour occupied the centre; the tubercles already formed progressively increased, while fresh ones arose in their vicinity. The glands in the groin were swollen, and slightly tender to the touch.

This disorganization of parts was effected in two months, and continued to increase after that period. Yet the general health of the patient was not so much impaired as to prevent the regular use of exercise, nor did it interfere with the pursuits of business. Lancinating pains occasionally affected the diseased parts, and an early and continued symptom was an excruciating pain complained of near the right kidney. The urine at times resembled porter, and deposited a lateritious sediment. At length the constitution began to suffer more severely. Nausea and loss of appetite gradually came on, accompanied by restlessness and excessive depression of spirits. Bluish spots arose in the vicinity of a mole upon the sternum; others appeared in succession on the sides of the body, and on the back; and very soon the forehead and scalp were disfigured with the same morbid appearances. The whole body seemed to participate in this disease of structure, and to preclude all idea of relief from any surgical operation, and to leave no resource beyond palliative treatment. With reluctance, therefore, I felt compelled to leave him to his fate. Gradually increasing dyspnœa came on along with a cough daily augmenting in severity.

The animal frame became perceptibly impaired, and the patient very soon unable to leave his bed-room. All that art could do was, if possible, to alleviate his sufferings, which were excessive; but the relief that could be given was only partial. Mr Hodgson, of Birmingham, at my request, saw the patient, who was advised to take large and repeated doses of extract of hyoscyamus and poppy, which diminished the distressing cough

and dyspnœa. He loathed animal food, as well as fermented and spirituous liquors, which only added to his feverish heat and restlessness. He frequently complained of heat, though the temperature of the skin was not higher than natural; and though his feet felt to my hand perfectly chilled, and his pulse scarcely perceptible, still he was incessantly requesting to be fanned. In this miserable state the half-sitting and half-recumbent posture was the least irksome to him. Symptoms of general dropsy had for some weeks shewn themselves, and these were soon followed by an increase of restlessness, cough, and difficulty of breathing, until death closed his miserable existence.

Appearances after Death.

On making an incision through the original tumour, I found the texture to be heterogeneous; it was of a reddish and whitish brown tint throughout, not very unlike the internal structure of a nutmeg. The newly formed tumour, and the tubera around, though during life they wore a very different aspect, after death both exhibited the same dark-coloured appearance. On puncturing a considerable number of the different tubercles, a thick dark fluid was discharged from them.

Having described the external appearances of the disease, as they successively arose on the surface of the abdomen, chest, sides, back, and head, I will now describe the morbid phenomena within. On making an incision from the upper extremity of the sternum, and exposing the ribs, a small tubercle was found near the angle of one of them. By a division of this morbid growth, it was evident that the disease was not confined to the periosteum, but had extended to the very substance of the bone. On continuing the incision towards the umbilicus, numerous distinct spots were found dispersed through the cellular substance. On opening the abdomen I found numerous tubera of various sizes. To the eye of the morbid anatomist it was interesting to behold the tumours scattered in the utmost profusion in every direction. Upon the transverse arch of the colon, the omentum, mesentery, stomach, and the large and small intestines, on the first of which the spots were exceedingly numerous. In dissecting downwards to the vertebræ, I met with a mass of diseased structure, which proved to be the mesenteric glands, in a shockingly morbid condition, from which, when divided, a fluid escaped, in colour and consistence something like tar. The pancreas was diseased in a similar manner, as well as the liver, which latter was so changed in colour, (being of a dark brown,) and so altered in its structure, as scarcely to be recognised. Its surface especially was studded with large

oval masses of the disease, and its substance throughout was soft and pulpy. Slight tumours of the same nature were manifest in the organization of the kidneys. The spleen and bladder were the only organs exempt from the influence of disease in the abdominal cavity. On examining the chest, a still more extraordinary appearance was observed. The lungs were on both sides thickly mottled in large and smaller masses throughout the greater part of their texture. The same mottled appearance was still more vividly displayed on the heart, and the specks were minute, more numerous, and distinct; the heart was almost literally encrusted with them, both externally and internally, and the tubera were from the size of a pin's head to that of a pea. The arteries and veins were not involved in the disease. There was about a quart of fluid in the abdomen; nearly a pint in each bag of the pleura; and perhaps two ounces in the pericardium. On dividing the scalp, many of the same diseased appearances were observed both on the skull cap and on the fascia covering the temporal muscles. The dura mater was also studded with them, though much less numerously than the mucous and serous membranes. The ventricles of the brain were nearly filled with fluid. The brain itself was apparently healthy, and with the exception of one speck on the leg, the extremities were free from the disease. It is remarkable that this gentleman's father, about thirty years ago, died of a similar disease. A surgeon of this town attended him, and he informed me that a number of small tumours appeared between the shoulders, which were severely cauterized, soon after which death took place. This tumour, I have remarked, originated in a mole, and it will be worth mentioning, that not only my patient and his children had many moles on various parts of their bodies, but also his own father and brothers had many of them. The youngest son has one of these marks exactly in the same place where the disease in his father first manifested itself. These facts, together with a case that has come under my notice, rather similar, would incline me to believe that this disease is hereditary.

Among the many cases on record of this dreadful disease, I am aware of no one wherein its ravages have been so extensive; nor am I acquainted with any case affording so strong a probability of the hereditary nature of the disease. These circumstances appear to me to add greatly to the interest of this case, and to justify the desire I feel that it should be laid before the public.

PART II.

CRITICAL ANALYSIS.

I.

Medical Topography of Upper Canada. By JOHN DOUGLAS, Assistant Surgeon 8th Regiment. 8vo. London, 1819. pp. 126.

MEDICAL topography, or that science which teaches the effects of climate, locality, and other external circumstances upon health, has been too much neglected by British authors. We possess, it is true, a few detached notices, principally in the form of prefatory remarks to accounts of the diseases of foreign climes, while, so far as our own country is concerned, our information is miserably defective, insomuch, that a complete work upon the subject is one of the greatest desiderata in our professional literature. The records of the medical department of our army, as they are now constructed, bid fair to supply the deficiency, as far as the stations of the troops are concerned; but these bear so small a proportion to the extent of the country, and are necessarily so much confined to the military practitioners, that the profession at large can derive little or no advantage from them. In our review of Dr Millingen's work, in the preceding number, we transcribed from that author the principal heads of topographical inquiry recommended by him to the consideration of military practitioners, on their arrival in a foreign country. From these, and the hints thrown out in Dr Hennen's "Principles of Military Surgery," much important matter may be collected, with little expence of either time or labour; but it is to the resident, and not the casual inquirer, that we must look for a full developement of the effects

of the topography of any district upon the health of its inhabitants.

Some faint traces of inquiry into the influence of climate, situation, and modes of living, may be found among the early English medical writers. John Kaye, more generally known by the name of "Dr Caius," in his "Boke or Conseill against the Disease commonly called the Sweat, or Sweating Sicknesse," 12mo, London, 1552, attributes the immediate origin of the disease to the fogs which arose from the low grounds about Shrewsbury, acted on by particular winds, and aggravated by the filth of narrow streets. This author also refers to a work of his on the climate, productions, and mineral waters of England, but there is reason to suppose that this work was never published. Andrew Borde, or, as he quaintly entitles himself, "Andreas Perforatus," published "A Compendious Regiment or Dietary of Health, made in Mount Pyllor," (Montpellier,) 1562, in which he treats on the situations best adapted for the preservation of health, on the mode of building houses, on domestic economy, and on diet. All the physicians of that period, and for a long time after, looked upon astronomy, or, more properly speaking, astrology, as an indispensable part of their profession, and, as a branch of that science, they attended much to the course of the winds and the nature of the air, and they well knew their effects upon ulcerated surfaces. With the effects of different waters, and the superior healthfulness of certain situations over others, they were also acquainted, but nothing like a regular series of observations or conclusions applicable to their own country, existed among them.

The earliest work with which we are acquainted, which has treated on the *general* medical topography of England, is a small duodecimo volume by Claromontius, a native of Lorrain, published at London in 1672, and entitled "De Aere, Locis, et Aquis Terræ Angliæ, deque morbis Anglorum vernaculis." This little tract is dedicated to James Duke of Ormond, and in an address to the College of Physicians, which follows the dedication, the author apologizes to that learned body, that he, a foreigner, should encroach upon a province which appeared to belong exclusively to them, and he softens the severity of this tacit rebuke by the following observation: "Id vero vos, non tam negligitis quam relinquitis: propterea quod domi versantes, ea quæ externis rara videntur, vobis quotidiana sunt continuoque usu cognita." This is a general excuse which has proved, and is likely still to continue, the bane of science; but our topographer makes another apology for his work, more particu-

larly applicable to himself, viz. his wish to inquire into the actual state of the practice of venesection in England, to discover how far the frequent employment of that evacuation was called for by the nature of the endemic diseases, and to what extent these were influenced by the climate, water, situation, &c. In furtherance of this design, he enters into a general description of the country, and from his observations, he is led to the conclusion, that, although well timed venesection is a judicious practice, yet that, upon the whole, purging is oftener required, and better adapted to the cure of the diseases incident to the inhabitants of our island. This question of the comparative value of blood-letting and purging was, in former days, not always submitted to the arbitration of the members of the medical profession alone; it often became a subject of legal inquiry, and we have in the works of Zacchias a striking example. A young man was seized with a pleurisy: the physician first called in treated the disease lightly, but on the third day, the parents of the patient being alarmed, applied to another practitioner; he decided on bleeding. The original medical adviser, who was the senior of the two, ordered a purgative. Two new practitioners were now consulted, but the patient expired on the eighth day of his disease. The opinion of Zacchias is curious enough: "If," says he, "a patient dies from the ignorance or negligence of his physician, the latter is answerable to the law; the fault is the greater, if the physician persists in his error from contempt of a physician younger than himself. It is also a most dangerous error to form exclusive systems in physic, although physicians are certainly bound to follow the ordinary practices laid down by the masters of the art, if not prevented by very cogent reasons. "Now," says Zacchias, "experience shows that the omission of blood-letting in inflammatory complaints is often highly dangerous, while, if the inflammation exists in a high degree, the administration of a purgative is a *capital error*; therefore, the purging physician should be prosecuted." To the general doctrine of this celebrated jurist we have nothing to object, nor shall we venture to conjecture the changes which might be produced in his opinions by a perusal of some of our modern English works, or by a sight of the graphical illustrations with which an ingenious French artist has thought proper to adorn a recent exposition of the purging code. Whether the propriety of purging was ever made the subject of legal investigation in this country we cannot say; but that it occasioned violent disputes among the faculty in the eighteenth century, is sufficiently proved by the hostilities to which the question gave rise between the learned physician-general of the Earl of Peterborough's

army, Freind, and the fanciful professor of physic at Gresham College, Woodward. *

In the course of the seventeenth and eighteenth centuries, Sydenham, Wintringham, Bisset, Huxham, Sims, Millar, and others, published various works upon the state of the air, and of epidemic and endemic diseases; but the writings of all these authors fall very far short of what we should deem perfect specimens of the medical topography of the places in which they practised. That British physicians are not deficient in the talents necessary for such undertakings, is proved by the specimens which they have given, in their accounts of other countries. These are numerous: among them the names of Pringle, Lind, and Blane, are conspicuous for general descriptions; while, for special topography, Cleghorn's work on Minorca, and Irvine's on Sicily, are the most minute and the most important; the fixed residence of these gentlemen in the islands they have described, and in which they had the advantage of extensive practice as army surgeons, render their works particularly valuable.

To refer to *particular* instances connected with our own country: In the first volume of the Edinburgh Medical Essays and Observations, the leading articles have, with great judgment, been appropriated to a topographical account of the city; a meteorological register; a description of the instruments with which the observations in the register were made, and an account of the diseases which were most frequent during the preceding year, 1731-32. These essays are too well known to require any further notice from us. They have served as a model for numerous periodical works of later date, and the papers which they contain on the present subject of our inquiries, rank among the earliest and the best that this country has produced. In the Philosophical Transactions for 1778, Dr Haygarth published an excellent paper on the topography of Chester, illustrated with many striking medical facts on the state of disease in that city. A respectable contemporary journal (the London Medical Repository) presented us, in its first number for January 1814, a specimen of the medical topo-

* Among the curious pamphlets of the day, to which this controversy gave rise, we may name the title of one, which may mark the spirit of the combatants: "*A Letter from the Facetious Dr Andrew Tripe at Bath, to his loving brother the profound Greshamite, showing that the Cacoethes Scribendi is a distemper arising from the redundancy of Biliose Salts, and not to be eradicated, but by a diurnal course of Oils and Vomits. With an Appendix, concerning the application of Socrates his Clyster, and the use of clean linen in a Controversy.*" 8vo. London, 1719.

graphy of the Metropolis, and in the March number for the same year, a series of queries on a simple and comprehensive plan, for the guidance of those disposed to make medical topography a subject of their inquiries; but we are sorry to observe that few of its correspondents have availed themselves of these queries, or at least have made their investigations public. In a paper in this Journal for July 1817, Dr Chisholm has ably illustrated the statistical pathology of Bristol and Clifton; and Dr Hunter of Leeds has prefixed some topographical notices of that place, to his paper on the epidemic fever which some time since prevailed there. It is not our intention to particularize every detached notice that may be found in our numerous periodical works, although, from their paucity, the enumeration would not be difficult; indeed, we may venture to assert, that probably not a thousandth part of our own island has been particularly described, with a view to the influence that its situation, productions, climate, &c. have upon the health of its inhabitants, while, of its general description, we possess scarcely any thing.

That great and numerous obstacles exist to a general medical topography of this or any other country we are most ready to admit; but we have little hesitation in saying, that the greatest of all is to be found in the apathy of the resident medical men, from whose cordial co-operation alone any thing of the kind can be expected. "Any voluminous work, whether systematic or empirical," to use the language of a learned author (Young) in his Essay on a branch of this subject, "must unavoidably contain much useless and some erroneous matter." To after times it must be left to correct these errors and prune these redundancies; but we cannot help expressing our regret, that even the germ of a general medical topography of our island has not yet appeared among us, and that we are left with little more than the bills of mortality, from which we can extract any information of the state of the public health of a vast majority of our most populous cities and counties. From these "empirical" sources we have reason to suppose that the loss of human life varies in different proportions from 1 in 36, the average rate for Middlesex, down to 1 in 73, the calculation for Cardigan; but for many of the causes of this striking difference we are consigned to the obscurities and intricacies of conjecture.

Of the sister island the topographical notices which we possess are very defective. Dr Gerard Boate published, in 1652, a Natural History of Ireland, in 12mo, which was reprinted in Dublin in 4to, in the year 1755. In this work, which is principally descriptive of the physical geography of the country,

there are two chapters on the health and reigning diseases, more curious than useful. In the works of Dr Rutty, a great many important facts, principally upon the weather, mineral waters, and other subjects of natural history, will be found; in his "Essay towards a Natural History of the County of Dublin," he has given some interesting topographical and statistical accounts of the capital. A medical topography of Cork in particular, and of the country in general, is prefixed to Connell's "Observationes Medicinales," published in Dublin in 1746. This book, by a physician whom the learned Gaubius has styled "The Irish Sydenham," is less known than it deserves to be. We are not acquainted with any modern work in which we are informed of the important changes which must have been effected throughout that part of the empire since the days of Rutty and Connell, nor any which can be looked upon as strictly topographical, although, from the numerous excellent reports lately published on fever, we may derive much useful information on that subject.

The Royal Society of Medicine of France attached particular importance to the science of Medical Topography, and, accordingly, in the excellent preface to their Memoirs for the year 1776, we find a comprehensive plan on the subject, addressed to their members and correspondents, and to practitioners in general, with a view to collecting a general medical topography of the kingdom. In consequence of the attention paid to their proposals, the Memoirs of the Society abound with topographical notices, and accounts of the epidemic and endemic diseases of man, and the "epizooties" of the lower animals. The collections of papers from the military hospitals by Hautesierk and De Horne also abound in valuable materials, insomuch that, if they have not a complete national work, the French may, without hesitation, be allowed to possess the greatest number of contributions towards that purpose of any other European nation. Menuret's Essays on the History of the Medical Topography of the Capital leave little more to be done in that branch of the subject.

The physicians of Italy, Sweden, Denmark, Holland, Germany, and other continental states, have all contributed, more or less, to the formation of a national medical topography; and an author of the last named country has the merit of having produced perhaps the best Essay extant on a General Medico-practical Geography.*

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* Fincke, Versuch einer allgemein mediscinisch-practishen Geographie, Leipsic, 1792, 3 vols. 8vo. In a note to a paper on the "Recent Progress of Me-

Africa and Asia have not, so far as we know, possessed native topographers; but some tracts are extant upon the subject by Spanish, French, German, and English authors, who have visited them as travellers, or been employed in the medical service of their country. The well-known work of Bontius, Physician General in the service of the Dutch East India Company, contains an entertaining and instructive series of dialogues, supposed to have passed between himself and his friend, Duræus, upon the climate, food, &c. of many parts of these extensive regions; but by far the most important topographical paper that we have ever met with upon the diseases of India is a special report, Medical, Geographical, and Agricultural, by the medical officers of our own Company's service, under the presidency of Dr Ainslie, upon the epidemic fever which prevailed in the provinces of Coimbatore, Madura, Dindigul, and Tinnivelly, in the years 1809-10-11. This paper we would strongly recommend to the perusal and the imitation of all who are interested in topographical inquiry. It was published in London in the year 1816. On the occupation of Egypt by the French armies, conquest and literature went hand in hand, and the medical topography of the country was not neglected in their progress; an excellent circular letter was addressed by Desgenettes, the head of the medical-staff, to all the officers of his department; this, together with several of the answers, is published in his "Histoire Medicale de L'Armée d'Orient," and furnishes a valuable series of notices upon that interesting portion of the globe. Nor was the subject neglected by the British medical officers. Short as was their stay in the country, and embarrassed as it was by every species of privation incident to the unusual duties on which they were employed, they found time for researches illustrative of the climate, topography, and diseases, and to their zeal we owe the "Medical Sketches" of Sir James M'Grigor, and the "Observations of Dr Dewar on Diarrhœa and Dysentery."

Among the members of the profession in the United States of America much has been done on the subject, as is fully testified by the works of Dr Chalmers, Dr Rush, and Dr Currie. A very interesting communication, by a naval surgeon, upon the medical topography of New Orleans, appeared in our Number for April 1816. It was published anonymously, but is not unworthy the name of our correspondent Dr Archibald Robert-

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dicine," in our 18th Vol. p. 8, will be found several references to the most important of these works.

son, now of Northampton. The voyages and travels of Humboldt and Bonpland, which have enriched geography and natural history with so many splendid acquisitions, have added many curious, instructive, and authentic notices, to the medical topography of Mexico, a country which was formerly so little known, and of which the little that was known was so blended with fable. The "Essai Statistique sur la Nouvelle Espagne" of these authors, is a work worthy of that immense and important country, and of the names of the illustrious travellers who have described it. The "Notitias Americanas" of Don Antonio Ulloa also contain many valuable facts, particularly his 11th "Entretenimiento," in which he treats on the influence of climate and situation on the diseases of Peru.

Of the West India islands numerous topographical accounts are extant, both in works specially dedicated to the purpose, and in various periodical publications. Hillary's admirable work on Barbadoes, Hunter's on Jamaica, and the more general treatise of Dr Mosely, late Physician to Chelsea Hospital, are well known; but the most modern, and, we believe, the best accounts will be found in the papers of Dr Dickson, Physician to the Fleet, and of Dr Fergusson, Inspector of Army Hospitals.* From the pen of the latter gentleman we anticipate a work on medical topography, which, if it fulfils the hopes excited by the reading of his paper in the Royal Society of this city, noticed in our last April Number, will throw a light upon the intricate subject of Marsh Miasmata as brilliant as it is novel.

We are not aware that any account of medical practice, in that portion of the American Continent denominated Upper Canada, has ever appeared before the present, if we except a paper by Mr M'Causland,† published in the 8th Volume of the Medical Commentaries. We had previously some detached notices in the works of American physicians, by which it would appear, that, in Canada as well as in the United States, the alterations on the face of the country, consequent upon the clearing away of the woods and the improvements in cultivation, have much influenced the frequency of diseases of the febrile class, and that the winters are less severe, and of shorter duration, than at a former period. What may have been the information

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* See Johnson on Tropical Climates, second edition. Various Papers by Dr Dickson, in the Med. Chir. Journal, and Dr Fergusson's Paper in the 8th Vol. of the Med. Chir. Transactions.

† Facts and Observations on different Medical Subjects, by R. M'Causland, Surgeon of the 8th (or King's) Regiment.

on these subjects possessed by the heads of our army during the late war in that country we cannot say, but we are bound to suppose that they had sufficient to enable them to guard against medical as well as military accidents. Canada was, to be sure, our own, and we might have had the same excuse for ignorance of its topography, that Claromontius made for the College of Physicians; but after the disastrous events consequent upon our want of information, on the diseases of a country much better known, and much nearer home, which the Walcheren expedition furnished, we cannot suppose that there was any lack of inquiry.

The conduct of our arch enemies the French, on the occasion of carrying a war into a new country, as far as regarded the health of their troops, is worthy of imitation. On the irruption of Bonaparte into Italy in 1796, a memoir was drawn up by the Inspector General of Health of the Army, and published by the Executive Directory, on the means of preserving and restoring health in that country. In this memoir were contained topographical views of the various parts of Italy, —their comparative salubrity,—their reigning diseases,—and the resources which each state, and each city and town possessed, for the support or restoration of health. To these were added special remarks on military hygiene, applicable to the circumstances of the army, the seasons and the climate, with practical notices, drawn from the best native medical authorities. So provident were the directors and their general for the health of their armies, that before they had advanced as far as Milan, the medical officers had pushed their topographical researches to the utmost extremity of the kingdom of Naples. Upon the same principle the Topographical Queries of Desgenettes, already alluded to, were circulated under a similar sanction; nor can we conceive any body of men to whom, if sufficient time is permitted to them, inquiries of this description can be more appropriately entrusted, than to the well-informed medical officers of an army; at a period of life when their mental and corporeal powers are in full vigour, and, aided by many concurrent circumstances, it becomes their interest to study minutely those subjects which either directly or collaterally may possess any influence upon health. They witness the endemic constitution of their occasional residences, and are often enabled to mark, not only the effects which local circumstances produce on new comers, but also the various shades of difference which are observable, until the constitution becomes assimilated to that of the native inhabitants. Endless opportunities for research, comparison, and analytical induction, are presented to their view,

and the value of these great sources of improvement is rarely diminished by that paralyzing influence which present or prospective independence but too frequently exerts over the talents and the industry of man.

The work of Mr Douglas appears to have been written partly during the period of the war in Canada, and partly since his return from that country. It is a short and spirited sketch, and, as far as it goes, is creditable to the author's talents. It is divided into six sections or principal heads. The first is on the topography of the country; in the others he treats in succession of the soil and climate,—of the services of the troops,—of the diseases which prevailed,—of the state of the wounded,—of the provincial militia and Indian nations who co-operated with the army. From the first section we shall extract an account of the town where the general hospital was situated.

"York, the seat of government, and capital of the province, is built on a level plain, along the northern bank of an extensive bay, which communicates on its west side with the lake. This bay is long and narrow, and fed by many streams from the contiguous soil, which in summer supply its waste of evaporation. It is navigable to vessels of considerable burden; and its shores in many parts are overgrown with rushes. Those winds which at times agitate the surface of the lake, seldom or never disturb its stagnant waters. The site which the town occupies appears to have been once a deep meadow, interspersed with pools of water. Some spots of ground which border upon the town are as yet in a state of nature. Even those fields which have been cultivated are not sufficiently intersected with drains to carry off the collections of water, which, in the rainy season of the year, often inundate the soil. The inhabitants of the town do not exceed six hundred, a number extremely small when contrasted with the whole population of the province. The town on its west side is defended by a fort, which is erected on a dry and level spot of ground. Here was established the general hospital, in rear of the army, to which the sick and wounded were conducted as necessity or contingency required. In sickly seasons the inhabitants of York are liable to be attacked by intermittent fever." pp. 15—17.

The general nature of the soil and climate of Upper Canada is sufficiently well known. Mr Douglas states, that the thermometer often indicates as great a reduction of heat as is met with in any other part of the globe; but it struck us as rather singular, that we did not find any specific statement as to the degrees of temperature indicated by the thermometer; so that, from this and the actual acknowledgment of one of his correspondents, we are led to suppose that there must have been a want of those useful instruments at the military hospitals of Canada.

Before we enter into the subject of the prevalent diseases, we shall give a specimen of the mode of warfare in the country, which no doubt greatly contributed to give them their peculiar character.

"The services of the army in Upper Canada were arduous and severe. So great was the scarcity of men, both at the commencement and during the continuance of the war, that no sooner had a regiment arrived at Quebec, than it was immediately ordered to proceed on its march to the Upper Province. The route was long and tedious; the fatigues great; and many difficulties were to be overcome. This line of march, from the point of debarkation to the Niagara frontier, where hostilities were carried on, includes a distance of nearly 550 miles. The road is cut through the woods, and runs along the banks of the river St Lawrence, and the northern side of Lake Ontario, varying in its course with the undulations of the shore. It is often interrupted by deep bays, and also by numerous tributary streams which discharge their water into the river St Lawrence. In many places where the ground is low and marshy, large trees are cut down, and laid crosswise, to facilitate the passage. When a march was undertaken in spring, or in autumn, the miry state of the roads presented many obstructions. Nor were the oppressive heats of summer, superadded to the fatigues of long and forced marches, less dispiriting to the soldier. When the passage was rendered tedious from the wetness of roads, the troops were generally conveyed to the Upper Province in *batteaux*, from which they were often obliged to disembark when they had to encounter the rapids of the river. The hauling and poleing of these vessels against the stream was attended with much labour. The clothes of the men employed on this duty were almost constantly wet. During night their accommodations were wretched. They slept cold and comfortless in the barns and out-houses of the settlers, which are widely scattered along the banks of the river. Sometimes, when overtaken by night, a fire was kindled in the woods, around which they stretched themselves till morning.

"But winter, with its attending storms, offered greater impediments to a march than any other season. Vehicles to forward the baggage could not always be procured. For successive days the march was at times obstructed by the falling of snow; and the drifted state of this in the woods rendered it hazardous to prosecute the journey. The faces of the men were often frost-bitten when much exposed to the north wind. Sometimes, indeed, the tear was no sooner secreted from the eye, than it congealed into an icicle upon the eye-lashes, so as to restrain their motion. Many of the wooden bridges which conducted across the streams had been burnt down by the enemy. The ice not being of sufficient thickness to support the men and baggage, delay was thus rendered unavoidable. But, more dejecting than all, such obstructions as these were sometimes accompanied with privation. When the rations of the men were expended,

the settlers could afford but little from their winter's stock of provisions. Thus want, in addition to the inclemency of winter, and the numerous impediments of a long march, increased the burden of general calamity. The night, too, proved more uncomfortable than the day. Though the men were stretched before the fire, the intenseness of the cold was severely felt. The toils of the day were not always followed by the refection of sleep. Its return seemed to be prevented by a certain degree of cold, and a deficiency of covering. The silence of the night was disturbed by the howlings of savage wolves, that prowled around the cottages. Nor was the ear less impressed by the rude winds in the forest, and the incessant noise of an impetuous river. The road, at times emerging from the woods, ran for a considerable distance along the edge of the river. Huge sheets of ice were then seen piled to an amazing height along the rocky margin of the stream. The accumulated mass, obtruding from the shore, appeared to alter the direction of the current. Rivulets descending from abrupt precipices, seemed from afar frozen to the eye. The grandeur of the scene was heightened by a variety of all those sublime objects which can engage the mind amid the general wildness of nature. Infants at their mothers' breasts supported with impunity the severity of winter.

"When the shores of the lakes were sufficiently frozen, so as to support the men and baggage, the day's march was completed with facility. Besides, it could be shortened or prolonged according to circumstances, when a choice of accommodation could frequently be obtained; yet the early completion of a route, attended with so many unavoidable obstructions, was always to be wished. Though other difficulties were to be surmounted in the field, their anticipation had as yet no power to sully the fondness of expectation." pp. 34—39.

That disease should appear among men thus exposed, is not a matter of surprise; hence we find pneumonia to have been particularly prevalent. In some it was sufficiently marked from the beginning; in others the symptoms were more obscure, and only fully developed themselves after venesection had relieved the oppressed vessels. On the appearance of the blood we have the following remarks:

"Neither the cupped appearance of the blood, nor its sizy coat, at all times corresponds to the severity of the symptoms of inflammation. The abstracted blood of one man who died of pneumonia exhibited little or no siziness on its surface. This, however, is a rare occurrence. There is truth in the assertion, that the marks of inflammation on the surface of the blood are, to a certain extent, modified by the shape and temperature of the vessel, and by the force and magnitude of the stream, as it springs or descends from the arm. In many instances the form of the coagulated mass bears a striking resemblance to the figure of the vessel which contains it. In

different cupfulls taken at the same bleeding, the relative quantity of serum to that of the crassamentum is often considerably varied. When the constitutional symptoms of pneumonia run high, the serum generally predominates. In this case the coagulated part has often been observed firm in its texture, elevated on its margins, and covered in its hollow centre with the buffy crust. The circular border of the crassamentum, when it joins the sizy coat on its external edge, assumes the colour of the arterial circulation, probably owing to its greater exposure at that part to the action of the atmosphere. The coagulated mass, which is of a dark colour on its under surface, either sinks or swims in the serum. This, however, depends on the manner in which the blood is taken from the arm. When the stream is strong, and propelled in a straight line to the cup, the generation of air-bubbles on the surface of the mass renders it partly supernatant.

"The tenacious fibrine, spread over the superior part of the crassamentum, feels tense and elastic to the touch, and not unlike the firm consistence of a muscular membrane. In this state it would appear, that the blood has acquired the property of forming a new bond of union between inflamed parts by an adventitious process of adhesion. The dissolved appearance of the blood which at times occurs in pneumonia, may seem to dissuade us against the employment of the lancet. This appearance, however, is at last overcome by repeated blood-letting. Coagulation takes place, and the crassamentum becomes coated with its inflammatory covering." pp. 56—58.

Rheumatism was, as might naturally be expected, frequent among the troops, and it often attacked the exposed parts of the body in its chronic form, without having been preceded by acute symptoms. Intermittents were also frequent, but Mr Douglas never met with them in the quartan form. The "lake fever," as it is called by the settlers, is neither more nor less than the summer and autumnal remitting fever, and doubtless took its rise from the same causes as the intermittents. Like the bilious remittent of the West Indies, it often terminated favourably on the third day. A few sporadic cases occurred which bore a striking resemblance to that disease, but differed from it in the absence of black vomit, and its less frequent fatality. Depletion by the lancet, and by calomel and jalap, and occasionally salivation, were the most effectual means of relief. Dysentery sometimes appeared, accompanied with fever of the intermittent and remittent type, but without any strong symptoms of inflammation. Cholera was occasionally met with, generally as the result of drinking bad water, or eating unripe fruits, and possibly from the sultriness of the days and chilliness of the nights in the summer season.

Under whatever latitude soldiers are exposed to hard labour in uncultivated or marshy countries, the same diseases are to be

expected. It is curious to find that a nearly similar catalogue is given on the authority of the Physician General of the Forces, who served with the English army in Ireland, so far back as the seventeenth century. Dr Boate, in speaking of what he calls the "leaguer sicknesses" in the English army, "which, since this bloody rebellion, went over into Ireland to fight that murderous nation,' after enumerating the looseness and malignant fever, violent coughs, dyspnœa, sciatica, and severe stranguries which afflicted the troops, remarks,

"That those diseases had their original, not from any defect of climate, but of the cold and other hardships which the soldiers suffered in their marches; for they many times going into the fields in cold and foul weather, and sometimes marching whole days long, yea several days together, in very dirty and wet ways, where their feet and legs were continually cold and wet; besides, that they were sometimes constrained to pass through the water up as high as the knees and waist, and after all that hardship endured in the day time, to lie in the night upon the wet ground in the open air; this caused the afore-named diseases, and several others amongst them, in so great number, it being to be wondered at that many more did not fall into them. And, without doubt, in any other country of the world, where all the same causes did concur, and where an army endured the like hardships, the same effects, if not worse, would follow; so that, in this effect, the land itself is not at all to be blamed."

In the Surgical Details, Mr Douglas remarks, that the constitutional fever attendant on severe injuries was evidently modified by the influence of climate; it partook of a remittent character, and its period of attack depended on the early or late appearance of local inflammation. Recovery was often interrupted by attacks of intermittent fever, one of the most dreadful scourges of the wounded. Fowler's solution of arsenic was found to be more effectual in the cure of this fever than any other medicine. Itching of the tarsi, tenderness of the mouth, and salivation, contraindicated its further use. Sometimes it affected the bowels severely, though conjoined with opium. The dose was four drops of the solution three times a-day, which was increased according to circumstances. Before employing this powerful and valuable remedy, the stomach was emptied by an emetic, and the bowels by a gentle aperient.

Mr Douglas gives his testimony to the superiority of immediate amputation, over the consecutive performance of that operation. Hospital gangrene made its appearance only in two instances among his patients; no case of tetanus came under his notice, nor did he ever hear of the occurrence of that disease among the wounded in Upper Canada.

In his section on the Diseases of the Indians, Mr Douglas observes:

"It was rumoured at one time, that the venereal disease had spread extensively among the Indians. No case of syphilis, however, either in its primary or secondary form, ever came under my notice. The disease made its appearance only in a few instances amongst the troops, and from this circumstance the report seemed to originate. It is asserted by some who have lived and travelled in the interior parts of the country, that many of the Indian nations have a knowledge of certain plants, whose efficacy they deem infallible in the cure of every form of syphilis. An interpreter of the Souk nation, with whom I have conversed, not only corroborates this statement, but affirms, that he has seldom known the disease prove fatal to any of the Indians." pp. 121, 122.

Mr Douglas concludes this very creditable essay, by stating that more than two years having elapsed since his arrival from Canada, and no communication relating to the diseases of the army in that country having been given to the public, to supply the defect, he was induced to take up his pen. For this we are obliged; but we confess that we should have been much gratified by some more extensive views of the statistics, prevalence, and mortality of diseases in that part of the world, extracted from those documents which must necessarily abound in the hands of the senior officers who were employed in the service, or the practitioners who had long resided in the country.

To remember, and to record, are confessedly the humblest operations of the human mind; and he who may not possess talents to reason, or possessing may not choose to exert them, may yet confer essential service on science, by furnishing the materials to those who enjoy both the power and the will to make use of them. We well know that there are many in our profession who record nothing,—except the amount of their fees; who stigmatize inquiry with the title of innovation, and crush, instead of fanning into life, the generous glow of genius, while it is yet struggling for existence. To these *traders* we have nothing to address; but to those who cultivate the science of medicine, we would strenuously recommend the study of medical topography, as among the most important means of promoting our knowledge of disease. So far as the pages of this Journal may avail, we shall be happy to give publicity to the fruits of their researches; and it will be gratifying to us to receive from our correspondents, histories of particular endemics in Scotland, with short notices of the districts where they occur, by which we may be enabled hereafter to display the contrast between the symptoms of the same diseases as they have appeared in different seasons, among the rich and the poor, the young and the old, the robust inhabitants of country parishes,

and the more luxurious and enervated residents of populous, rich, and manufacturing towns.

We shall take an early opportunity of compiling a comprehensive plan for such memoirs. In the mean time we shall content ourselves with pointing out a few authorities which we would recommend as examples for imitation to such of our readers as may be disposed to concur with our views. We have already mentioned some valuable papers, and have referred generally to some of the best authors. Of these we may particularize "The Account of the Climate of Pennsylvania, and its Influence upon the Human Body," by Dr Rush, in the first volume of his Medical Inquiries and Observations; and his "Account of the Natural History of Medicine among the Indians," and of the "Influence of the Political and Military Events of the Revolution," to be found in the same volume; his "Inquiry into the Influence of Physical Causes upon the Moral Faculty," in the second volume; his view of the "State of Medicine," in the fourth volume; and the accounts of the various diseases of Philadelphia dispersed throughout the collection of his works published in that city. We would also recommend the attentive perusal of Dr Currie's "Historical Account of the Climate and Diseases of the United States of America." Besides these, Wilson on Climate, Woolcomb on the Frequency and Fatality of Diseases, Mansford on Consumption, Domier on Malta, Gourlay and Adams on Madeira, and Clarke's Medical Notes, will furnish much useful information in themselves, and will suggest many subjects for inquiry and elucidation. The second edition of the work of Dr Johnson on "Tropical Climates" will also be found to contain a large and concentrated mass of topographical information connected with these countries, while his work on the "Influence of the Atmosphere" may be advantageously consulted on our own. Ramazzini's work on the Diseases of Artificers, to which is added a small tract by Hoffman on Climate and Situation, has long been naturalized in our language by James's translation, and is not only useful, but, we had almost said, indispensable, to those who make medical topography, in its fullest extent, their study.

We confess that we feel considerable difficulty in adding to this catalogue, not from any paucity of materials, but because so many of them are completely beyond the reach of the general reader; we may, however, mention, that, in the French language, in addition to the books we have already noticed, the works of Foderé will be found to contain many valuable hints. The Italian work of Sarcone, Director of the Swiss Military Hospital at Naples, on the diseases of that city, is one of considerable value in every point of view. In the German language

works on topography abound. We have already noticed that of Finke on Medical Geography, to which may be added the writings of John Peter Frank, Schnurrer's Geograph. Nosologie, and especially the "Jahrbuch der Staatsarzneikunde," or Annals of State Medicine, of Kopp.

Those who have access to large libraries we must refer to the list of books given in Parr's Medical Dictionary, article Topography, and to the Literatura Medica Digesta of Plouquet, title "Topographia Medica." We must observe, however, of this, as well as of Dr Parr's catalogue, (which is so close an imitation as to have copied even the typographical errors,) that a number of the works quoted are almost, if not altogether, unattainable in this country, many of them having been published as inaugural dissertations at foreign universities,—many being references to books which in their turn refer to others without entering into particulars,—while many, if attained, will in no degree repay the labour of procuring, or the drudgery of perusing them, as we have ourselves painfully experienced. For a less voluminous, but more judicious selection, we would in preference recommend the learned work of Dr Young "On Medical Literature and Practical Nosology." Under the various heads of Climate, Employments, Habits, Clothing, &c. the references are sufficiently numerous, while the original essay which that distinguished philosopher has given upon the "Medical Effects of Climates," will be found not less remarkable for the clearness of its style than for the correct statement of the facts, and the justice of the conclusions deduced from them.

II.—III.

Systems of Surgery.

II. *The First Lines of the Practice of Surgery: designed as an Introduction for Students, and a concise Book of Reference for Practitioners.* By SAMUEL COOPER, late Surgeon to the Forces, &c. &c. 4th Edition. Vol. I. London, 1819. 8vo. Pp. 663.

III. *A System of Pathological and Operative Surgery, founded on Anatomy: illustrated by Drawings of Diseased Structure, and Plans of Operation.* By ROBERT ALLAN, Fellow of the Royal College of Surgeons of London and Edinburgh &c. &c. Edinburgh, 1819. 8vo. Vol. I. Pp. 496.

THE examination of systems, whether of Medicine or Surgery, does not strictly accord with the plan which we have laid

down for the critical department of this Journal, while, at the same time, we do not preclude ourselves from bringing before the notice of our readers any works, under whatever denomination they may appear, which we conceive worthy of attention for their novelty or their excellence. The first of the publications which stands at the head of this article has no claim to the former distinction, for it has already gone through three unusually large editions; but the rapid sale of these, and the increasing demand for a fourth, is a sufficient proof that it is eminently entitled to the latter. The second publication is as yet in an unfinished state, the first volume only having made its appearance, but, as a system emanating from the Edinburgh school, it is new, and when completed, we have no doubt will be found deserving of considerable praise. Both works come from surgeons who have seen much practice in the service of their country; Mr Cooper as an army and Mr Allan as a naval surgeon. Each of these gentlemen has also enjoyed other valuable opportunities of improvement; the first in the London hospitals, and the other as assistant to the late Mr John Bell of this city,—a gentleman who, whatever faults criticism may have found with his publications, was undeniably an eminent surgeon, and one of the first in this part of the empire who endeavoured to connect his art, more completely than it had previously been, with the actual practice of anatomy.

So different are the plans pursued by our two authors, that their books would not admit of being compared together, even were Mr Allan's system completed. Except on one subject, therefore, which we shall hereafter touch upon, we shall draw no parallels between them.

The present edition of his First Lines Mr Samuel Cooper conceives to be essentially connected with the last edition of his excellent Dictionary, published in 1818. These works mutually illustrate each other, and points which are but slightly touched upon, or which may have been altogether omitted in one, are fully detailed in the other. These two works, then, may be considered as one; and they indisputably contain a greater mass of matter, more ample extracts from the works of the most eminent surgeons both ancient and modern, foreign and domestic, and more copious reference to every accessible source of information, than has ever appeared in the English, or indeed has ever before been brought together in any other language; they, therefore, well fulfil the promise of their titles in forming an introduction for students, a book of reference for practitioners, and a copious Bibliotheca Chirurgica. Nor are they to be considered solely as compilations, since many valuable original re-

marks and cases are to be found in them under the articles Diseases of the Joints, Gunshot Wounds, &c. &c. On Lithotomy, Fractures, and Dislocations, he is very full; but if there is any one article, rather than another, where Mr Cooper has been more copious and more judicious in his selection, it appears to us to have been the various Diseases of the Eye. Under this head he has embodied absolutely every thing worth knowing by the practitioner, and has formed an excellent introduction to those who wish further to pursue the history of ophthalmic surgery, particularly of the German school. Nor has he allowed his "Esprit de Corps" to operate to the detriment of his readers; for, notwithstanding the serious differences of opinion which exist between the army surgeons on one side, and a well known London oculist and his patrons on the other, we never have these politico-ophthalmic disputes obtruded upon us. Why the parties themselves do not refer the matter in dispute to a mutual selection of able men, has long been to us a matter of surprise. Surely to a Baillie, a Cooper, a Home, or many others that we could name in the first ranks of the profession, might be submitted a question of this nature, with the most perfect reliance on their capacity as well as on their impartiality. It is on the deliberate opinion of such men, and not upon the effusions of angry and interested disputants, that the thinking part of the public will form their ultimate decision.

Mr Allan's work is presented, as he himself expresses it, "to the senior part of the profession with diffidence and respect,—to the junior not without hopes of its being useful,—and to his pupils as a mark of gratitude for the kindness and partiality they have on all occasions shown to him as a public teacher." In his preface, our author acknowledges the utility of Mr Cooper's work as a manual, but he conceives that it is not sufficiently extensive for the purposes of a system,—to supply the defect, and to present a consecutive view of medical as well as operative surgery founded on anatomy, and so comprehensive as to embrace the whole pathology of the science, he professes to have undertaken his own. In the volume now before the public he gives a general introductory view of the doctrines of inflammation, and then proceeds to the subject of Ulcers, Wounds, and Bandages, with which last the volume concludes. He has added, in foot-notes, an account of the doctrines and practices of the French school, thus exhibiting a comparative view of the existing state of French and English surgery. While Mr Allan admits that, like other systematic writers, he has availed himself of the labours of his predecessors, he assures us that he has advanced nothing that his own experience does not sanction.

The chapter on Specific Inflammations includes four sections, in which Fungus Hæmatodes, Cancer, Scrofula, and Venereal diseases, are discussed. It is on this latter point that we propose to compare his opinions with those of Mr Cooper, leaving to time, and the active spirit of inquiry which at present exists, to develope which of the prevalent opinions upon the subject are right, and which erroneous,—assured that the authors on both sides are individually actuated by a spirit of liberality, and perfectly convinced, that, however the ultimate decision may turn out, the profession and the public must reap considerable advantages from the investigation.

The following extracts will show Mr Allan's opinions on this interesting subject:

"In the management of primary venereal sores, we proceed thus: When a patient presents himself with a chancre, if there is little inflammation, and if the sore is recent, we touch it freely with the argentum nitratum, and immediately apply a little dry lint; at the same time we put the patient upon a mercurial course, which we continue till it exerts visible effects upon the system; that is, till the pulse is increased in frequency, and the mouth becomes sore. When the eschar separates, if the caustic has been freely applied, the sore is generally in a state of a simple ulcer, requiring no farther local application than a bit of dry lint; but if it remains stationary, and does not heal under the operation of the mercury, we increase the action in the part by washing it occasionally with a solution of the sulphate of copper, in the proportion of five grains of the salt to an ounce of water; or we wet a bit of lint in the solution, and keep it constantly applied. During this local treatment, we keep the system under the full influence of mercury till the sore is healed, and for some time after, to guard against the possibility of any constitutional affection from absorption. If the chancre has been of long continuance before the patient has applied, if it is tolerably clean, and if there is no great inflammation, our first step should be to place him under mercury, to push the medicine till such time as the system is completely affected, and to apply to the chancre either dry lint, or, what is preferable, the ash-coloured oxide of mercury or the submuriate of mercury; a little of either may be sprinkled upon the sore morning and evening, which should be then covered with a little lint, and the old powder regularly washed off before a fresh quantity is applied; or a convenient dressing may be prepared, by suspending two drachms of the submuriate of mercury in six drachms of the mucilage of gum arabic. This is the liniment which I generally employ, and find to answer every purpose in this state of the sores. After the chancre becomes clean, it generally heals under the operation of mercury, with no other dressing than lint, applied in the manner now mentioned. If not, we apply the solution of the sulphate of copper, or a weak solution of the nitrate of silver, in the proportion of two grains to

an ounce of water. When chancres are foul, and there is no particularly marked inflammation, we may dress them with the red oxide of mercury, or touch them occasionally with a solution of the argentum nitratum, containing six grains in an ounce of water, or with a solution of the muriate of mercury, in the proportion of two grains of the salt to an ounce of water. When they become clean, we use the submuriate or dry lint, or the solution of the sulphate of copper, according to circumstances; but whatever local applications we employ, we must bear in mind that no patient is safe unless he is kept during the whole of the cure under the full influence of mercury." pp. 194—196.

"As bubo is an inflammatory disease, and as the inflammation is of a specific character, it is obvious, that in the treatment of it we should adopt those means which are best calculated to subdue inflammation in general, while we at the same time employ the remedy which experience pronounces best suited to the specific nature of the disease. In all stages of bubo, it is a primary object to employ mercury in sufficient quantity to destroy the venereal action, and to protect the system from the effects of the poison. For this purpose, mercury may be exhibited in a variety of ways, but here it is most advisable to administer it in such a manner that it may come in immediate contact with the inflamed gland. The best way to effect this, is to apply it to that surface from which those absorbents arise that lead to the affected gland; the mercury should therefore be rubbed in on the inside of the leg and thigh of the affected side. It should be used evening and morning, and applied in such quantities as to place the system speedily and completely under its influence. As the motion of friction is not only fatiguing to a patient in such circumstances, but tends much to irritate the gland, it is proper that the mercury should be rubbed in by another person. From the irritation produced in consequence of the friction, a painful inflammatory pustular eruption is apt to take place. To obviate this as much as possible, the hairs should be shaved off the inside of the leg and thigh previous to commencing the frictions. From half an ounce to an ounce of strong mercurial ointment should be briskly rubbed in for half an hour evening and morning, till the pulse becomes quick, with other symptoms of fever, and the mouth is slightly affected. If this practice is adopted in the incipient stage of the bubo, it will in general discuss it; although it will be prudent at the same time to put the patient on a low diet, to enjoin absolute rest, and the horizontal posture, and to keep cloths, wet with the saturnine solution, constantly applied to the groin. If the bubo is attended with much heat and pain, a few leeches should also be applied; and if the patient be vigorous, and in the meridian of life, with acceleration of pulse, it will be proper to abstract blood from the general system by venesection. If the bubo has made much progress, is very large, and the skin discoloured, it will be advisable to lay aside the cold applications, and to employ warm opiate or saturnine fomentations and warm saturnine poultices, with

a view to bring it to suppuration, although these means frequently materially assist in its discussion. We at the same time continue the mercury, if the system is not violently affected; for it has sometimes happened, that even after the formation of matter, buboes, under the operation of mercury, have been dispersed without bursting. When matter is once formed, we use warm fomentations three or four times a-day; and in the intervals warm poultices to soften the tumour, and to promote the ulceration of the integuments and escape of the matter. But if the bubo is inclined to become very large, and is long of bursting, it will be proper to discharge its contents by making an opening with a lancet at its inferior part. If this is not done, the integuments become so much distended that their tone is lost, they ulcerate largely, and the sore is long of healing." pp. 205—207.

"The Profession have, from time to time, been amused with new medicines for the cure of syphilis; but the united experience of all practical writers has declared that mercury is the only medicine which can with safety be relied on. But although this be the opinion of that part of the Profession who write from experience and not from speculation, still they are by no means agreed with regard to the manner in which the mercury should be used. If the modus operandi of mercury in the cure of venereal were once ascertained, it would be easy to regulate the use of the medicine so as to procure with certainty the wished-for effect; but while its peculiar mode of operation is unknown, the practice of the Profession must differ materially with regard to its exhibition. Accordingly, we find that a number of practitioners of late years administer mercury in such small doses, as barely to affect the mouth or exhibit any marked influence on the system; while others push the medicine so far as to excite a high febrile action, and visibly increase the secretions. It appears to me that mercury cures lues more quickly, and with greater certainty, when given in such quantities as visibly to quicken the pulse, raise a general inflammatory action, and gently increase the secretions; and that much less of the medicine is required to effect a cure when thrown in quickly than when exhibited slowly; I shall therefore continue to adhere to, and to recommend, that practice which I have found to be the most successful.

"When mercury is given in such small quantities as hardly to affect the mouth, the cure is neither so quick nor so certain as when the circulation is much accelerated. A secondary venereal sore in general possesses little action; but whenever the mercury begins to quicken the pulse, the sore becomes more irritable and begins to heal. We stop the mercury when the mouth becomes sore; in a few days the action of the system abates, and the sore becomes stationary; we renew the use of mercury, the febrile action recommences, and the sore again begins to cicatrize; so that, literally speaking, a venereal sore heals by starts, and quicker or slower in proportion as it is rendered irritable. But in conducting a course of mercury, our great care should be not to push the medicine too far; for if carried beyond a certain point, the system becomes so excited, and

the ulcer is rendered so irritable, that instead of healing it inflames, becomes painful, and begins to spread, forming an ulcer of a new character, called the Mercurial Ulcer, which is nothing more nor less than an irritable ulcer produced by the action of mercury." pp. 218, 219.

On reviewing the three hypotheses respecting the action of mercury, viz. its evacuating, its specific, and its stimulating powers, Mr. A. considers that the general mass of facts is most reconcilable with its action as a stimulant.

When we state generally that Mr Cooper's opinions are strongly in favour of the non-mercurial practice, though by no means to the total exclusion of mercury, we need not occupy our pages with long extracts; but that such of our readers as have not seen the present edition of his First Lines, may be able to form an opinion both of its style and its doctrines, we shall transcribe the following passage from the first volume.

After making some remarks on the opinions of Hunter, Pearson, and other writers, Mr Cooper remarks,

"From the preceding facts and view of the subject, many curious and important considerations naturally arise. In the first place, they oblige us to renounce all the most important doctrines advanced by Mr Hunter, and adopted in almost every school, in relation to the history, progress, and cure of the venereal disease. They compel us to believe, either that true syphilis has totally changed, in the course of the last twenty or thirty years, or that most of the Hunterian theories about it were always false, and founded upon mistaken notions. At the present day it will be extremely difficult to come to a positive decision, with regard either to the altered nature or diminished frequency of syphilis; more especially, when we recollect two facts; first, that ever since the epoch of the supposed introduction of this disease from America, there have been practitioners at all times, who successfully treated every form of venereal complaints without mercury; and, secondly, the absolute impossibility of our asserting, that if experiments had been formerly made, similar to those which have now been undertaken, on a public-spirited, impartial, and extensive scale, the same results and inferences would not have followed. The facts, recently established, lead also to other highly important and interesting questions, in respect to the frequency and nature of the secondary symptoms, which occur when no mercury has been employed.

"Upon an average, according to Mr Rose, one out of every three of the sores, thus treated, was followed by some form or other of constitutional affection, which was in most instances mild, and sometimes so slight, that it would have escaped notice, if it had not been carefully sought for. The constitutional symptoms were evidently not such as could be regarded as venereal, if we give credit to the

commonly received ideas on the subject. Caries of the bones, and some of the least equivocal symptoms, did not occur. In no instance was there that uniform progress, with unrelenting fury, from one order of symptoms and parts affected to another, which is considered as an essential characteristic of true syphilis.

"Considerable diversity, however, prevails in the statements concerning the frequency of secondary symptoms in the instances in which no mercury was used. While Mr Rose, as we have seen, represents the proportion, observed by himself, to be as great as one out of every three cases, only six cases of secondary symptoms were remarked in the York Hospital, in nearly 100 patients, who had been treated without mercury. It is allowed, however, that the real proportion might have been somewhat larger; and, according to some other returns collected by Mr Guthrie, the proportion would appear to be about one-tenth. As far as the observations of another writer have extended, (Hennen,) eruptions are much more common in patients treated without mercury, than in others treated with it; but he states, that in none of the former instances have the breakings out ended in ulcerations, as has frequently happened in the latter. The observations, drawn from the returns of certain military hospitals, and published by Mr Guthrie, also tend to prove, that mercury lessens the frequency of secondary symptoms; for it appears, that out of 521 cases, treated with mercury in one district, only ten cases of secondary symptoms happened.

"In regard to the general mildness and curability, without mercury, of such secondary symptoms, as take place in cases where that mineral has not been employed, the reports of nearly all the gentlemen, who have entered into this investigation, completely agree. They concur also as to the fact of the rarity of the bones being affected." pp. 354—356.

Both these works are illustrated with several neatly engraved plates, those in Mr Allan's principally illustrative of strictures of the urethra, on which he treats in the chapter on venereal complaints.

IV.—V.

IV. *Practical Observations on the Symptoms, Discrimination, and Treatment, of some of the most common Diseases of the Lower Intestines and Anus. Particularly including those Affections produced by Stricture, Ulceration, and Tumour, within the Cavity of the Rectum; and Piles, Fistulæ, and Excrescences, formed at its External Opening. Illustrated by Cases. To*

which are added, some suggestions upon a New and Successful Mode of correcting Habitual Confinement in the Bowels, to ensure their Regular Action without the aid of Purgatives; on a principle essentially conductive to the Prevention of the above Diseases. By JOHN HOWSHIP, Member of the Royal College of Surgeons in London, &c. 8vo. Pp. 176. London, 1820.

V. *Observations on Strictures of the Rectum, and other Affections which Diminish the Capacity of that Intestine; including Spasmodic Constriction of the Anus, the Hæmorrhoidal Tumours, (called Piles,) Excrescences, and the Prolapsus Ani; and the Mode of Treatment; accompanied with Cases and Engravings.* By W. WHITE, Member of the Royal College of Surgeons, &c. &c. 8vo. Pp. 172. Bath, 1820.

THE diseases which form the subject of the Essays now before us, have but recently obtained that attention from regular practitioners in England which their importance merits. Like the Diseases of the Eye, some of them, for a long time, remained a sort of heir-loom to empirics; but the titles of these ingenious gentlemen are now undergoing such rigid examination, as to give every reason for hope that their claims to exclusive rights and privileges will be effectually disproven, and that those unfortunates, who have annually fallen sacrifices to their ignorance and their cupidity, will at length be rescued from their hands. Indeed, we cannot altogether exempt the regular practitioners from blame; for to their own apathy must, in some degree, be attributed the disgraceful progress of quackery in this country. It is true that the leading classes, orders, and genera of diseases, have met from British authors with an ample share of consideration, and we may boast, and justly too, that no other nation has excelled us in the practical part of our profession, so far as these have been concerned; but, as if the minor species of ills which flesh is heir to, were altogether beneath attention, they have been either very superficially touched upon, or left entirely unnoticed by our most esteemed systematic writers, who, apparently conceiving that the task of further developing the natural history of disease had been fully accomplished, have launched into the boundless ocean of theory and speculation, in rivalry, perhaps, of our great countryman who first

"Exhausted worlds, and then imagined new."

The authors before us are, however, of a much less poetical order, and have contented themselves with collecting facts rather than creating them.

Mr White is the first of our authors, in point of time, who has treated on the diseases of the rectum; the present work being his third edition. The date of his first we do not recollect, but a very interesting paper of his will be found in the London Medical and Surgical Journal for October 1809, Vol. XXII. Wiseman had mentioned the subject, but the earliest English writer (with whose opinions we are acquainted) who has given a full history of contracted rectum is Dr Sherwen, who, in the second volume of the Memoirs of the London Medical Society, published an admirable paper on the "Scirrho-Contracted Rectum." Dr Mossman also gave a paper on the subject in the Annals of Medicine for 1797. Many detached observations have since been communicated. Sir E. Home's labours are well known; and a special treatise on the diseases of the rectum and anus was published in 1810 by Mr Thomas Copeland. Among foreign authors observations will be found in the works of Tulpius, Ruysch, Morgagni, and Bonetus; and, more lately, in the Surgical Journal of Desault, and the late systems of surgery by other French writers. Mr White remarks,

"Practitioners who are not acquainted, from actual experience, with the disease under consideration, will be apt to attribute the symptoms of its early stage, either to habitual costiveness, piles, stomach complaints, or bilious obstructions; and to impute those attendant on its more advanced progress to chronic diarrhœa. Hence it happens, that a prominent symptom is liable to be mistaken for other morbid affections of the alimentary canal; which proves the great necessity there is for a careful and minute investigation, where such a resemblance of symptoms occurs.

"What Dr Sherwen has so justly observed with regard to scirrhus of the rectum, is likewise strictly applicable to simple stricture.—'There is no disease,' he says, 'to which the human frame is incident, that is more liable to be misunderstood. Diarrhœa, dysentery, tenesmus, cholic, painful distension of the abdomen, inflammation of the bowels, and iliac passion, which are each of them formidable, and often fatal in themselves, may be successive symptoms of the scirrhous rectum. Under some one of these appearances it is highly presumable that many patients have died without the real cause having ever been assigned or suspected, and even when it is suspected and becomes an object of manual investigation, may be easily mistaken for an enlargement of the prostate gland or scirrhous uterus.'

"An opinion has been held that women are more subject to this disease than men. With this, however, my experience does not agree, as the greatest number of those by whom I have been consulted

were males; yet, I would not even from this infer, that men are more liable.

"Although no age or sex appears to be exempt from this complaint, yet it does not come so frequently within our knowledge, until persons have arrived at the meridian of life; the number afflicted at that period has certainly been much greater than at any other; at the same time it is proper to notice, that even in several of these cases, symptoms of the disease had been experienced at a very early age." pp. 6—8.

Many causes have been assigned for a strictured state of the rectum, such as spasm, inflammation, &c.; even syphilis has been supposed to produce it, an opinion, by the bye, as old as the days of Wiseman, who, we believe, was himself the first author that has mentioned it, but, in the present state of the question on this subject, we shall not enlarge upon this as a cause. According to Mr White, the most frequent predisposing cause is the gut being narrower about the termination of the sigmoid flexure of the colon than it ought to be for the purpose of allowing a free and easy passage to the feces.

"In those cases of obstinate costiveness, which are known so often to baffle the attempts of medical men, is it not rather surprising, that the existence of a mechanical impediment, should not strike the mind of the practitioner, when he has so frequent occasion to lament the inefficiency of the means he employs, and that his own efforts prove as unavailing as those of his medical brethren, to whom the patient had previously applied? Although it would be absurd to suppose that every case of habitual costiveness proceeded from a mechanical obstruction of the passage; yet, from various conversations I have had with different sensible persons (some medical) who laboured under strictures of the rectum, I am much inclined to think, that the most frequent predisposing cause is the gut being somewhat narrower about the termination of the sigmoid flexure of the colon than it ought to be for the purpose of allowing a free and easy passage to the feces. I was led to this opinion in consequence of patients having so often stated to me, that, so long as they could remember, they never had a natural motion, without experiencing more or less difficulty. It will then appear obvious, that, if the passage should be preternaturally small, it must necessarily form an impediment to the free discharge of the feces, and thus a foundation will be laid for a greater degree of contraction, as reiterated pressure from the accumulation of feces must tend to induce a spasmodic action of the intestine, and this, for a length of time repeated, may ultimately produce a more permanent state of contraction, increasing in proportion as the part becomes more deranged in its organization.

"In stating what I conceive to be the most frequent predisposing cause of strictures in the rectum, I do not mean to exclude other

circumstances which may contribute to produce the disease; for it is evident the intestinal canal must be liable to have its peristaltic motion deranged from various causes, such as acrid substances taken into the stomach, a morbid state of the secretions,—more especially the biliary; which, by inducing an increased vascularity of the mucous membrane of the intestine, may prove an exciting cause of stricture, agreeable to the observation of that eminent and distinguished physician, Dr Parry,—'In many cases of dyspepsia,' he says, 'the primary disorder exists in the colon, the villous coat of which appears to be affected with morbid sensibility, unspeakable uneasiness, burning heat, and all those other circumstances which have been described as occurring in the stomach. This state is very apt to run into inflammation, and is, I believe, a frequent origin of strictures in the intestine.' Though I perfectly agree with Dr Parry, that an inflamed state of the mucous membrane may sometimes prove an exciting cause of stricture, by inducing a spasmodic action of the muscular coat of the intestine; yet, I am convinced, from attentive observation, that a disordered state of the colon, very similar to what he describes, is frequently the effect of stricture near the termination of the colon, or in the rectum. The ceasing of these symptoms, when the mechanical obstruction is overcome, affords the strongest proof that the opinion is well founded—this fact having been witnessed in a variety of cases. As Dr Parry very justly remarks, the secondary affection is often mistaken for the primary, and this, I apprehend, to be another reason why strictures of the rectum are so frequently overlooked; for it often happens that the patient suffers more pain and uneasiness from a deranged state of the colon, as a consequence of stricture, than at the stricture itself; which is occasioned by the colon being repeatedly distended from accumulation of feculent matter, owing to the difficulty of the feces passing through a part naturally too narrow, or become so by the formation of a stricture. Hence the colon is weakened, rendered irritable and spasmodic; and, from repeated distention, it becomes greatly enlarged in its capacity." pp. 26—29.

We have had occasion, in three cases, to trace a temporary spasmodic affection of the rectum to the immoderate use of spice, combined with excess of wine. Far be it from us to throw out reflections against an admirable addition to our culinary comforts; but we must confess that cayenne pepper, or at least an article so called, was the spice used on all these occasions.* We have also seen another case in a gouty habit, in which we were satisfied that an affection of the liver, probably turgescence

* Our readers will recollect the composition of Ward's quack pill and paste for infallibly removing fistula in ano. The basis was pepper, and the action probably consisted in exciting an inflammatory disposition along the course of the rectum.

of its vessels, propagated to the mesenteric and hemorrhoidal branches, had given rise to a temporary diminution of the calibre of the lower part of the intestinal canal. An observation of White's lends a considerable degree of probability to this conjecture. At p. 30 he remarks,

"Before I conclude this part of the subject, there is a circumstance which I think deserving of notice, and that is, a tuberculated state of the liver, which was discovered on dissection in two cases; a fact, I believe, not hitherto noticed, as occurring in combination with a contracted state of the rectum. And, moreover, there appears to me some reason for supposing such a diseased state of the liver not an accidental occurrence; for, it is to be observed, that in other cases there has often been an evident derangement in the biliary secretion. And, it is also worthy of remark, that, in different instances, the introduction of the bougie has proved a stimulus to the biliary secretion, where that had been previously defective. As a confirmation of the preceding remarks, there is a case of diseased rectum, published in the second volume of the Memoirs of the London Medical Society, by Dr Lettsom, which was accompanied by a suppuration of the liver. After describing the morbid appearances of the gut, he says, 'The texture of the small lobe of the liver, and almost the whole of its substance, was destroyed by a large abscess, which was just ready to burst into the abdomen, and which contained a pure white pus.'" pp. 30, 31.

The leading symptoms which, according to Mr White, more particularly indicate a strictured state of the rectum, are habitual costiveness; sense of fulness in the transverse-arch of the colon, especially towards the sigmoid flexure; sense of pressure, and sometimes acute pain, confined to a particular point, with violent spasmodic contractions. Sometimes there exists a sensation as if the parts were tightly girded with a cord. All these sensations are in general aggravated in proportion as the stricture is seated high up in the rectum. At length uneasiness is felt on going to stool, attended with difficulty in voiding the feces, which gradually become more scanty, smaller, and more irregular in figure, and discharged with a convulsive jerk, and a sudden and loud explosion of wind; a sensation of tenesmus and uneasiness still continuing after the evacuation. There are also frequently present, pain of the back about the sacrum, hemorrhage, and pain of the head, especially in the occipital region. There is very little emaciation of the body or loss of strength until the disorder is far advanced, when the countenance becomes sallow, and the pulse quick, accompanied with other symptoms of hectic.

Mr White remarks,

"With regard to the lessened diameter of the feces just noticed,

which must necessarily be the case, whenever a permanently contracted state of the gut takes place; yet it has happened, in some instances, where that change had been observed, that, in a more advanced period of the disease, feces of a natural size had occasionally passed. The knowledge of this circumstance I consider of importance, inasmuch as, if properly attended to, it will prevent the practitioner from hastily concluding there is no stricture, merely from an examination of the evacuations; when symptoms may otherwise indicate the presence of the disease.

"If the stricture should happen to be so low in the rectum, as not to allow room for the accumulation of feces, it must appear evident that they will be found uniformly small in diameter, (in proportion to the degree of stricture,) while they continue to be discharged in a figured state. And also, when the stricture is high up in the rectum, so long as the gut below retains its natural expulsive power, an accumulation will be prevented, and the diminished size of the feces will continue. But, as the disorder increases, the inferior portion of the intestine gradually loses that power; and when the contraction becomes considerable, a small quantity of feces only pass at a time through the stricture, and not being sufficient to stimulate the lower part of the rectum, (which in a great measure is deprived of its natural action,) an accumulation goes on from time to time, until at length it becomes difficult to remove; and, on these occasions, feces of a natural size have been sometimes discharged." pp. 36, 37.

Actual examination by the finger or bougie, after the feces have been evacuated, is the only means of detecting this disorder, the patient at the same time making an effort as if to go to stool. With regard to the modes of cure, that by pressure, first recommended by Wiseman, is now sufficiently well known. He used tents of gentian and of deer's suet for the purpose, and these failing, had recourse to incision, and even to that *soothing* application the actual cautery. Dr Sherwen has proposed bougies of horn, previously softened in boiling water. Desault used tents of lint. Darwin proposed the introduction of bougies, or of a leather canula or gut, which was either to be distended with a wooden maundrill or with air; he also proposed the destruction of the stricture by lunar caustic. Sponge has been recommended by Mr Charles Bell, and courses of mercury have been proposed by Dr Robert White; but our author, upon the whole, prefers the common bougie; and, as adjuncts, he recommends the hip-bath, and injections with the extract of poppy. His method of making the bougies is as follows:

The manner of making the Bougies.

"℞ Ceræ flavæ ℔ i ½
Adep. suillæ prepar. ℔ iv. m ft. cerat.

"N.—In the winter, one part of wax will be sufficient to four of lard.

" A long piece of lint, folded and tied at one end, is to be dipped in this ointment, and drawn through a wooden mould; when cold, it must be passed through another mould of less diameter; then to be re-dipped and passed a third time.

" It is necessary to employ several moulds for the purpose of making different sized bougies." p. 172.

He remarks,

" The bougie should at first be of such a size as to pass the stricture without considerable resistance; for, if much force be applied, it cannot fail of exciting too great irritation, and of proving injurious by inducing inflammation and increasing pain. Although it is necessary to increase the size of the bougie, yet this should be done in a very gradual manner, (particularly at first,) until the passage becomes accustomed to the stimulus. As there is always more or less of spasmodic action excited on passing the bougie, it should be introduced in as slow and gentle a manner as possible; and it is generally necessary to desist a short time from pushing it forward, when it arrives at the stricture, until the spasmodic action ceases. Therefore, in passing the bougie, there is not only the resistance of a permanent stricture, but also the resistance of a temporary spasmodic one to overcome. At first, it should not remain longer than half an hour or an hour in the rectum; or, if there should be much irritation, not quite so long; this, however, seldom happens with the bougie which I employ, after it has completely passed the stricture. By degrees it may be suffered to remain eight or ten hours at a time, with little or no inconvenience to the patient. In general, it may be passed daily. The length of time it is necessary to employ the bougie must depend on circumstances. When the contraction is not considerable, and symptoms of the disorder have not been experienced for a very long period, a dilatation of the passage may be effected in the course of four or five weeks. But, in cases of long standing, and where the contraction is considerable, it may be seven or eight weeks before the passage will admit of the largest bougie. In some instances the stricture will not admit of dilatation to that extent. It is, however, surprising, what I have seen effected by patiently persevering in this plan, in cases which had been abandoned; in consequence of such a mode of treatment being considered as impracticable and injurious to the patient.

" It is proper to observe, that, though the passage be so far dilated as to admit the largest bougie, yet it is absolutely necessary to persevere in its use for some time afterwards, and then to leave it off gradually; because of the disposition of the passage to contract again, if the plan be relinquished too soon.

" It may likewise be proper to mention here, the effect the bougie has in exciting the natural action of the bowels. Sometimes it happens, that, notwithstanding the patient had been a long time before (perhaps years) under the necessity of constantly taking opening medicines, yet, after a few times employing the bougie, the bowels have

regained their natural action. This effect, however, is not always to be expected so speedily; for I have known instances, where the action had not been restored until three months after using the bougie; and in some cases not at all." pp. 57—59.

We do not mean to deny the utility of bougies in some cases; but we know them to have been frequently much less tolerable than the stricture itself. At this moment there is a patient under our own eye, who prefers submitting to the disease rather than to the introduction of that instrument, from the excruciating pain which it produces. With regard to the medical treatment, Mr White recommends the use of laxatives, especially castor oil, and mild enemas. The diet should be sparing, and restricted as to animal food; fruit or vegetables, and whatever food is introduced, should be well masticated.

Mr White's work is illustrated by two plates, and by a number of cases, some of them very interesting and instructive.

We anticipated much information on the first announcement of Mr Howship's work, knowing how zealously that gentleman had availed himself of the opportunities which his practice as an army surgeon, and his subsequent connection with Mr Heaviside, so amply allowed of; aware too of his abilities as an enlightened and a diligent prosecutor of pathological anatomy; nor were we disappointed. His work we can confidently recommend to the members of the profession as a valuable addition to their libraries, and as a depository of many interesting facts in the morbid anatomy of these parts. Its ample title-page is sufficiently indicative of the contents, and we shall give some extracts to enable our readers to judge of the mode in which Mr Howship treats his subject.

In speaking of the stricture of the rectum, he remarks,

"By examining the bowel in the earliest or inflammatory stage, we ascertain the existence of extreme irritability, or severe pain, in the seat of the affection, (Case 2;) the intestine feeling soft and pulpy, and the inner membrane thrown into folds.

"When the complaint has continued some time, and the sides of the gut are much thickened, in connection, perhaps, with effusion of coagulable lymph into the cavity, such thickening is more readily ascertained under examination. The lymph poured out into the canal may vary as to quantity and disposition; and, while recent, the adherent mass, whether divided into bands, or attached to one part only, may be peeled off and separated by the end of the finger; or, if perfectly organized, there are still other means by which its quantity may be lessened, or the inconveniences resulting from its presence removed.

"Occasionally there are only a few small membranous septa passing

across the canal, or a rough membranous surface, the extent of which may be determined by passing the finger on to the more perfectly smooth and elastic texture of the mucous membrane.

"When inflammation proceeds to ulcerate, the ulcerated surface will usually be very painful to the touch, and apt to bleed, unless indeed the cellular membrane has become sloughy. Should ulceration not have taken place, the thickening and consequent contraction in the coats of the canal will pass forward to the more advanced state of stricture, so as to prevent the introduction of the smallest bougie, and rendering the intestine at last impervious.

"Where stricture in this part has been ascribed to the venereal disease, the complaint takes place in the manner above-mentioned. The sides of the gut become thicker, and more firm than natural, lessening the diameter of the canal. It has been supposed that, in this particular affection, the mucous membrane of the bowel labours under an excitement similar to that which exists in the urethra in gonorrhœa; and to this circumstance the French writers have attributed the copious mucous discharges that occasionally attend the disease. I have, however, met with no fact in support of this opinion.

"Should the disease have arisen from translation, or retrocession of cutaneous eruption, or should it be conceived to originate in hæmorrhoidal or fistulous complaints, it will in either case observe the same course, and exhibit the same appearances that have been described already.

"The latter stages of strictured rectum, where it has no malignant tendency, are extremely distressing. The aperture of the stricture diminishing, the increased efforts required to expel the feces become not only violent, but at length unavailing; while the urgent straining tends only to aggravate the irritation of the diseased parts, exposing the patient to a degree of misery and torment almost beyond description. Happily, even in these circumstances, the disease admits not only of being relieved, but cured.

"When the difficulties of the disease increase, it occasionally happens that abscess takes place in the vicinity, which abscess extending to the cavity of the intestine above the stricture, and opening externally also, allows the escape of at least some part of the contents of the overloaded intestines; a circumstance I had lately the opportunity of witnessing in a poor person, who, under much distress from this complaint, could not be prevailed on to allow the proper means to be used for her relief, and consequently fell a sacrifice to the disease.

"Of the malignant, scirrhous, or cancerous stricture, the early course frequently passes by without notice: it sometimes proceeds very slowly. In one case, the first symptom was an occasional uneasiness, and frequent darting pain in passing a motion. In two other cases, one of which is published, the first symptom was an irritation at the neck of the bladder, (Case 6.) The more early symptoms are succeeded by those local inconveniences consequent to obstruction to the passage through the bowel.

" The distinction between scirrhous stricture and contraction of any other kind is always important, but not always easy; much assistance, however, may in general be derived from a careful attention to the history.

" It has been observed, that the firmness or induration in the feel of the stricture, and the apparently considerable extent of the affection, conveying the idea of a large mass fixed in the pelvis, is a criterion of its nature. This was once my opinion; but I have lately traced the same character in diseases from which, by proper care, the patients have perfectly recovered.

" The symptoms I think most clear, are either a peculiar sharp pain darting through the seat of the disease, or a more constant sense of glowing warmth or heat in the part. These symptoms, as far as I have seen, attend only the malignant, or scirrhous stricture. The means of relief also, as far as they relate to mechanical pressure, while they relieve other kinds of stricture, cannot be endured in this; in which they only tend to aggravate the symptoms, and hasten the progress of the disease." pp. 9—13.

In the section on the Treatment we have the following interesting remarks:

" Regarding the consequences of inflammation in the urethra, and in the rectum, as producing stricture, one material difference appears to be, the more frequent effusion of coagulable lymph into the cavity of the canal in the latter than in the former case.

" Where adventitious adhesions have taken place in the rectum, their division ought to be effected, if within reach, but always with the least possible violence. If recent, the finger alone will be sufficient for separating them, without injury to the surface of the bowel. Where, however, force or violence is necessary, the division had better be made with a probe-pointed bistoury, or with scissars; the instrument being cautiously introduced upon the finger, without being suffered to pass beyond the reach of that best of all directors.

" The occasional necessity for the aid of instruments, in dividing these adhesions, will be apparent, when it is recollected, that although coagulable lymph is easily separated or torn when it occurs as a recent deposit, its condition changes, it becomes organized, and the strength it may ultimately acquire is scarcely to be believed. In my Practical Observations in Surgery, a case is related, in which the usual symptoms of hernia were produced by adhesions formed within the abdomen, strangling a part of the intestinal tube. It is difficult to conceive that any cord or band, the merely accidental result of effusion, should be capable of bringing about so serious a consequence. I was, however, lately requested to open the body of a young woman, in which examination I found the abdominal viscera in general much incommoded, and the omentum diseased, from inflammation, which had deposited various cords of coagulable lymph, connecting the bowels in various parts to each other, and to the pelvis. One of these cords, attached at one end to the anterior pa-

rietes of the abdomen, and by the other to the small intestines, and thence indirectly to the spine, was scarcely thicker than a crow-quill, yet so strong, that, raising it upon the fingers of both my hands, I found it strong enough to enable me to lift the body almost entirely from the table." pp. 16--18.

In his chapter on Ulceration of the Interior Surface of the Intestine, we find the following observations, which appear to us very important:

"The occurrence of large discharges, apparently of blood from the bowels, is generally unconnected with ulceration; and as this particular disorder of the intestinal canal has been but little adverted to, though always serious, and often fatal, I may be excused in making some few practical remarks regarding this kind of hemorrhage.

"In July 1811, I visited a gentleman, who, towards the decline of life, was attacked with this disorder. Owing to various circumstances, he had long experienced a declension both in health and spirits; when he was suddenly seized with a severe vomiting and purging, which, from the appearance of the stools, seemed at first to resemble cholera morbus. There were frequent spasmodic pains in the bowels, a small weak pulse, and extreme prostration of strength. The excessive debility, and the severity of the pains were such, that, when the spasms came on, the accumulated contents of the rectum passed at once away, without any power of restraint. On the third day the vomiting declined, but the stools, although less copious, were now evidently blood, little, if at all, changed by mixture with other fluids. Mr Heaviside, who was the surgeon in attendance, had little hope of his recovery; but, assisted by medicine, and a light nutritious diet, he was eventually, though very slowly, restored to health.

"The next case, of which I had the opportunity of seeing not only the progress, but also the termination, I have formerly adverted to; it was one that I could only view in the light of a scorbutic complaint. Upon several accounts this case excited my particular attention.

"In January 1817, I had again an opportunity of seeing the disease, being consulted by a man aged 40, who, for several months, had passed, almost daily, blood by the rectum; without my being able to trace any disease in the anus, or in the bowel above it. He some days voided a dessert spoonful, at others half a pint. It generally passed alone, but sometimes with feces. This case was marked by spongy, but not bleeding gums; but it agreed with the others in extreme constitutional debility, and excessive depression of spirits, and might be clearly traced to a preceding course of low, poor, salted diet. I directed him to eat fresh food and vegetables, and ordered him to take also the juice of four lemons every day, in lemonade, or otherwise. In a fortnight his complaints were better, but the plan was now changed for astringents. The sulphuric acid, tincture of kino, rectified spirit

of turpentine, and various aluminous mixtures, were tried in succession, but without success; they produced severe spasmodic pains, costiveness, and sickness at stomach, without in the least checking the hemorrhage. These medicines laid aside, he was again ordered the lemon-juice, with the addition of bark and aromatics, the bowels being kept in a state of regularity by castor oil. Under this treatment, his complaints gave way, and by two months' perseverance he found himself entirely recovered; his spirits and strength being essentially improved, and the appearance of blood in his stools quite removed." pp. 63—65.

In his chapter on Intus-susception will be found some instructive remarks. This state of disease, he observes, may always be suspected where the bowels have been for many days obstinately constipated in early youth. For its removal he recommends the warm-bath, and the copious introduction of the vapour of warm water by a proper apparatus. Some experiments were tried last year by a friend of ours, which gave reason to suppose, that inflation of the bowels with atmospheric air, by a bellows, might be effectually employed in this complaint, but Mr H.'s proposal appears to us, as well as to our friend, a still more feasible plan, where a proper apparatus can be procured.

Mr Howship mentions, as a singular preparation in the collection of Mr C. Bell, a portion of intestine partly inverted, which had been passed by stool, and after which the patient perfectly recovered. This is, however, by no means a singular or uncommon occurrence. In Dr Monro's museum, in this university, several preparations of the kind have been long preserved, and not a few similar cases are on record.

In his eighth and last chapter, Mr Howship treats on the means best calculated to establish a regular state of the bowels. On this subject he remarks as follows:

"A circumstance that occurred in the year 1808, while doing duty as surgeon to the 82d regiment, led me to believe, that in many cases of confinement of bowels, medicines may be so directed as to render purgatives unnecessary.

"It happened that an elderly lady, residing at Scarborough, desired my opinion, requesting me to consider of some plan, by the adoption of which she might obtain a more regular action of her bowels. She had no complaint to make as to her general health; her appetite was good, and she slept well, neither did there appear to be any material defect in the condition of the digestive organs; the only objectionable circumstance being that of her scarcely ever passing a stool without the assistance of medicine. The advice, she said, she had always received from her professional friends was, that, when

confined in her bowels, she must still have recourse to opening medicines; she added, that really she had taken so great a variety and so large a quantity, that she loathed the very idea of going on, and felt extremely anxious to know if any plan could be suggested to render it unnecessary.

"On reflection, it appeared probable that this was an instance of deficient action from defective strength, and that, perhaps, by persevering for a time in the use of medicines calculated to restore tone, the bowels might recover the disposition, as well as the power, to propel their contents with regularity; at any rate, there could be no harm in making the experiment. I therefore first ordered the decoction and tincture of bark to be taken daily. This, in a week, appeared to have done neither good nor harm; there was no heat of tongue or skin: but there had been occasion for castor oil. Decoction of bark was next directed by itself; and in three weeks she thought her inside felt stronger, with less disposition to flatulence than before. In consequence of this amendment, the medicine was continued for a month longer, within which period, she found there was no longer any occasion to solicit the action of the bowels at all, a regular and easy motion occurring every day. This restoration in the tone and action of the bowels appeared likely to be lasting; for there had been no return of the complaint a year and a half afterwards.

"The adoption of a similar principle, with some slight modifications, has, in a variety of instances, enabled me to restore to the bowels the power of acting from their own impulse, without the perpetual necessity for being reminded of their duty. To set down particular instances would, I apprehend, be loss of time; neither have I preserved accurate notes but of very few. One of the cases in which this treatment completely succeeded has been mentioned. (Case 25.) I might enumerate many others, the results of which were equally satisfactory. For the present, however, it will be sufficient to observe, that I have, in some instances, at first combined the decoction of bark with a fourth part the quantity of infusion of senna, or with that proportion which answered the purpose of regulating the bowels, occasionally diminishing the quantity of the aperient, till the action of the bowels was observed to go on well with the bark alone.

"Under some circumstances, the decoction and tincture of bark will answer extremely well together; but the decoction alone is, in general, less apt to require the temporary combination of Epsom salt, infusion of senna, or some other aperient.

"If the innumerable train of ill consequences, known to be induced by habitual confinement of bowels, are adverted to, there will be no need to excuse the bringing forward any proposition that has for its object the prevention or removal of so great an evil; more particularly while we continue to retain that sort of instinctive feeling which leads us to prefer food to physic.

"I am not unconscious that we are all subject to feel the bias of attachment to our own opinions, for which reason the present re-

marks are intended rather as suggestions, than as established truths, the practical value of which can only be absolutely determined by their being submitted to the test of more extensive experience. The ability of an individual is confined to the power of stating faithfully what he may have watched attentively, within the comparatively narrow circle of his own observation." pp. 162—165.

Thirty interesting cases illustrate Mr Howship's little work, which is rendered still more useful by a good index. We have now only to express our hopes, that this industrious and able surgeon may long be spared to continue his valuable contributions to our profession.

VI.

Practical Essays on Strictures of the Urethra and Diseases of the Testicles, including Observations on Fistula in Perinæo and Hydrocele. Illustrated by numerous Cases and an Engraving; and prefaced with some Remarks on Life and Organization. By Robert Bingham, Fellow of the Royal College of Surgeons. Pp. 357. 8vo. London, 1820.

Mr Bingham seems perfectly aware of the limited and exclusive views with which almost every treatise on strictures of the urethra has been written.

We have Sir Everard Home writing at great length for the purpose of enforcing the use of the lunar caustic, and holding almost every other remedy in perfect contempt; we have Mr Whately again condemning the lunar caustic, and holding up the kali purum as exclusively worthy of our adoption; we have lately had Mr Arnot urging the utility of a particular species of tube for distending contracted portions of the urethra, and to these we may now add Mr Bingham on the use of the unguentum hydrargyri fortius, to the commendation of which a considerable portion of his book is devoted. We do not by any means object to this; and when we consider the different circumstances giving rise to strictures, and the different constitutions in which they orginate, we are pleased with every attempt to extend our knowledge of the disease and to multiply our sources of relief.

Mr Bingham introduces his work by some prefatory observa-

tions on life and organization, which do not appear to us peculiarly well placed in a practical work on strictures of the urethra. He strenuously opposes the idea that life is the result of organization, and says, that the following statement (which we quote for the benefit of our sceptical readers) has seldom or never failed to convert those infidels whom our author has occasionally met with:

"For life to be the result of organization, it must happen that organization is the cause, and life is the effect of the operation of that cause; but if it can be shewn, that life exists before organization, then it will appear probable that life is the cause and organization the result, for no effect can precede the cause which produces it. The organization of a hybrid animal resembles that of each parent equally: a mule, for instance, in its organization, resembles the horse quite as much as it does the ass, which proves that the parents had an equal share in producing the organization of the mule; and, consequently, no part of its organization could have been perfected before the parents copulated.

"Considering the short time necessary for the male parent to accomplish his part, we cannot believe that any of the organization of the future young is completed during that short period. Such an idea must appear so highly improbable that it would only be a waste of time to dwell upon it. Organization cannot possibly be completed in that short time, and yet of necessity something must be perfected, otherwise no young animal could be produced. The organization of every young animal partakes of the nature of both its parents: it cannot, therefore, be formed before each parent has contributed its share of influence to regulate the organization: it cannot be perfected, during the union of the two sexes, but it is perfected afterwards: it follows then, as a necessary conclusion, that the sexual intercourse perfects nothing but the principle of organization, or, in other words, the first germ of the life of the young animal—thus life exists before organization." pp. 7—9.

Mr Bingham next introduces some observations on the constitutional treatment of local diseases, and throughout the whole of his work evinces a most laudable attention to this important subject, prescribing, in almost every case, remedies calculated to obviate morbid affections of the stomach and bowels; for which purpose he seems to hold the blue pill, combined with small doses of castor oil, and other purgatives, in high estimation.

The first four sections of the work are occupied by a description of the various kinds of stricture; the theory, causes, and symptoms of this disease; and, in treating of these topics, we have not remarked any thing peculiarly novel or interesting in our author's views. In the next section we have some very just

remarks on the different kinds of bougies, the different articles of which they are composed, and the merits which each of them respectively possess.

In his chapter on the mode of introducing bougies into the urethra, Mr Bingham, when speaking of the introduction of inflexible instruments (of course including the common catheter), expresses himself thus:

"Until the point of the curved instrument reaches below the arch of the pubes, it may be introduced either with its concavity or its convexity towards the patient's abdomen; the former is the most simple, and therefore the preferable mode, except it be rendered impracticable by the protuberance of the patient's abdomen.

"The manner of passing the instrument with its convexity towards the patient's body is objectionable, because, when its point has got past the arch of the pubes, it must be turned half round to reverse the position of the other end, and in effecting this turn, if the point be not made the centre of motion, there will be great danger of injuring the urethra. In taking this semicircular sweep, the instrument must be allowed to be loose upon the surgeon's hand, and he must delicately accommodate his hand to its movements as it inclines to approach to or recede from the body whilst he gently carries it round, and then the urethra surrounding it will determine the centre of motion to the point. But if the surgeon exerts the slightest degree of control beyond what has been mentioned, the point of the instrument will never constitute the centre of motion, and he will incur risk of doing mischief great in proportion to his unnecessary interference." pp. 73, 74.

Although these sentiments have long been our own, we are not confident that we could have expressed them more accurately, and we do not, at this moment, recollect any previous author who has expressed them so well. We feel the more interested on this point, because we know that an inference, unfavourable to our own dexterity, was lately drawn, simply in consequence of our introducing the catheter with its concave side towards the abdomen; our patient, indeed, readily admitted that we gave him less uneasiness than his former surgeon, who introduced the instrument in the opposite mode, but the *coup de maitre* made with the catheter when its point reached the arch of the pubes had caught the gentleman's fancy, and, being a man of the world, he was decidedly of opinion, that whatever mode of proceeding was calculated to impress the patient with the highest opinion of his surgeon's abilities was obviously the best; the same apology might, however, be pleaded for every species of quackery, and, until we have a better reason than this for altering our practice, we shall continue to introduce the catheter with its concave

side towards the abdomen, as we have now done for many years with success.

Mr Bingham next proceeds to treat, in succession, of the cure of strictures by the simple bougie, the argentum nitratum, the kali purum, potassæ subcarbonas, natron exsiccatum, and the unguentum hydrargyri fortius. The merits of the three former have been amply discussed by preceding writers, and the three latter, particularly the unguentum hydrargyri fortius, Mr Bingham has the merit of introducing to our notice. Of the last he says,

"I come now to speak of another useful auxiliary to the bougie, which, so far as I can learn, has never before been employed in the cure of stricture; a remedy from which I have derived very considerable assistance, and which, on that account, I am disposed to recommend strongly: I mean the unguentum hydrargyri fortius." p. 177.

"The manner of applying the unguentum hydrargyri fortius is, to smear it upon the bougie, and pass it through the stricture, where it may be allowed to remain for a longer or shorter period, according as it is wished to exert more or less influence." p. 179.

"If the stricture happens to be impervious to a bougie, the unguentum hydrargyri fortius may be conveyed to it in the end of a flexible gum canula, and pushed from thence by a bougie, as described when speaking of the unguentum argenti nitrati." p. 183.

As we have nothing to offer upon the subject of these remedies from our own experience, we must refer to the work itself, remarking, that so many remedies have now been pointed out for strictures of the urethra, and each represented by its advocate as so abundantly successful, that we feel half inclined to adopt (with the alteration of a single word) the language of the poet:

> For modes of *cure* let fools contest,
> Whate'er is best administered is best.

Mr Bingham concludes his work by some observations on Fistula in Perinæo, false passages in the Urethra, diseases of the Testicles, Suspensary Bandages, and Hydrocele; on all of which subjects some pertinent remarks are offered, but to these our limits do not permit us particularly to advert.

The numerous cases illustrative of this work appear to be detailed with much candour;—the cures, in general, are not too expeditious, nor in any way miraculous;—and the powers of remedies are plainly stated, without any exaggerated representation of their effects.

PART III.

MEDICAL INTELLIGENCE.

On Tuesday 1st August, the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine on the following Gentlemen, (121 in number,) after having gone through the appointed examinations, and publicly defended their inaugural dissertations:—

Of Scotland.

William Aiton, . De Politeia Medica.
J. Wilson Anderson, — Medicamentis quæ in Cerebrum agunt.
Robert Baikie, . — Rubeola.
George Barclay, . — Peste.
Alexander Baxter, . — Febre Remittente.
Wm. Forrester Bow, — Rubeola, ejusque Communicatione Artificiosa.
Andrew Bullions, — Typho.
William Burn, — Febre Mediterranea.
Donald Butter, . — Hydrophobia.
George D. Cameron, — Cynanche Laryngea.
Ninian R. Cheyne, — Emphysemate.
John Cochran, . — Hemiplegia.
James Crawford, . — Ictero.
Walter Graham, . — Hepatitide.
George Grant, . — Hepatitide.
William Guland, . — Sanguinis Detractione.
William Hamilton, — Dyspepsia.
James Kellie, . . — Morbo Epidemico qui nomine Cholera Spasmodica per Indiam Orientalem nuper grassatus est.
Patrick M'Donell, — Syncope Anginosa.
Samuel M'Gavin, . — Rheumatismo Acuto et Chronico.
James M'Gregor, . — Cataracts.
John Millar, . — Renibus.
William Munro, . — Febre Intermittente.
John Paul, . . — Cynanche Trachealı.
J. Stewart Ramsay, — Cœli Ratione Valetudinis Imperatrice.
A. John Robertson, — Diabete Mellito Simplici.
John Scott, . De Febre Biliosa Orientali
Andrew Simson, . — Hydrothorace.
J. Craig Somerville, — Syphilide et ejus Curatione sine Hydrargyro.
William Spier, . — Sedibus Dotium Nervosi Generis Intellectui Inservientium.
Alexander Turnbull, — Ascite Saccato.

From England.

Wm. S. Beecraft, . De Usu et Abusu Sanguinis Missione in Febribus.
Robert Buchanan, — Scarlatina.
John Butter, . . — Ophthalmia.
J. William Calvert, — Vaccinæ veræ Testimoniis.
Alexander Clarke, . — Pneumonia.
John Crawford, . — Quibusdam Febris Epidemicæ Varietatibus.
Robert Dymond, . — Morbis Artuum quibusdam.
Tho. Stamp Edger, — Regimine Febrientium.
Tho. Curry Elliot, — Primo Nascentis Spiritu.
Henry Goldwyer, . — Ischuria Vesicali
Thomas Grimston, — Hydrope.
Thomas Hallifax, . — Asthmate Spasmodico.
William Harland, . — Ascite.
Edward Jessop, . — Hepatitide.
Robert M. Kerrison, — Neuralgia Faciei Spasmodica.
Richard Kennard, . — Delirio Ebriosorum proprio.
John Gogill Leath, . — Phthisi, Cœloque Phthisi Idoneo.
Edward L'Oste, . — Rheumatismo.

Alexander Moore, . De Dyspepsia et Melancholia Dyspeptica.
Trevor Morris, . — Variis Sententiis quod ad Contagii Vires in Morbis Pestilentibus.
John Nesbitt, . — Exercitatione.
Robert Paget, . . — Calculorum Urinæ Natura.
Henry Goffe Parken, — Neuralgia.
Frederick F. Quin, . — Arsenico.
Henry Reeder, . . — Affectibus Cordis.
Tho. H. Ridgway, . — Pneumonia.
Chas. Julius Roberts, — Diæta et Regimine Phthisicorum.
Wm. Blake Satterley, — Balnei Frigidi Calidique usu in Febribus.
Thomas Slacke, . . — Morbis Pressu Sanandis.
Ashby Smith, . . — Lepra.
Charles Thomas, . — Hydrope Tria Præcipua Corporis Cava afficiente.
William Thomas, . — Apoplexia.
Corden Thomson, . — Temperie Corporis Humani.
Charles Vinall, . — Morbis Capite sauciato ortis.

From Ireland.

James Allen, . . De Cynanche Tonsillari.
John Armstrong, . — Hæmatemesi.
Joseph Wm. Austen, — Purpura Hæmorrhagica.
Tho. Edward Beattie, — Aneurismate.
Michael Bennet, . — Rheumatismo.
David Brereton, . — Uteri Hæmorrhagiis.
Francis Burton, . — Agitatione Nervosa Vulneribus Scloppetariis quandoque inflicta.
Francis Corban, . — Cynanche Tonsillari.
James Crawford, . — Strictura in Urethra.
Patrick Cussen, . — Typho.
John Evans, . — Colica Biliosa Intertropica.
Robert Evans, . — Apoplexia.
Patrick Glissen, . — Phthisi Pulmonali.
Copeland Grattan, . — Ophthalmia.
Samuel Holmes, . — Dysenteria.
Robert Hickson, . — Fistula Lachrymali.
Joshua Harvey, . — Diabete Mellito.
James Kenny, . — Febre Puerperali.
Henry King, . . — Febre Gibraltaia.
Thomas Love, . — Hepatitide.
Thomas Luby, . — Hepatitide Acuta.
Peter M'Intyre, . — Causis Arteriarum post Mortem Vacuitatis.
Joseph Joy Magee, . De Phthisi Pulmonali.
Montague M. Mahony, De Syphilide.
Nicholas Middleton, . — Ascite Abdominali.
Alexander Moore, . — Pneumonia.
Francis Moran, . . — Respiratione.
Patrick Murphy, . . — Asthmate.
Dennis Murray, . — Tabe Mesenterica.
Steele Murray, . . . — Hydrocele Tunicæ Vaginalis.
Thomas Murray, . . — Respiratione.
William H. Neligan, . — Erysipelate.
James Pope, . . . — Angina Pectoris.
Wm. Thomas Rankin, . — Rheumatismo.
Robert Scott, . . . — Asphyxia.
Richard B. Teulon, . — Asthmate.
Amos Vereker, . . — Arthritide Regulari.
Richard Fetnam Walsh, — Apoplexia Sanguinea.
Hugh B. Whiteford, . — Hepatitide.
Wm. Maxwell Wilson, . — Dyspepsia.
George Wyse, . . . — Aeris Effectibus in Corpus Humanum.

From Geneva.

John Charles Coindet, . De Rerum Pathematibus.

From St Petersburgh.

Hermin Fred. Kilian, . De Nervi Glossopharyngei Origine.

From Canada.

John Stephenson, . . De Velosynthesi.

From America.

Samuel Annan, . . De Apoplexia Sanguinea.
Thomas Young Simons, — Somno.

From West Indies.

Gordon Warner, . . De Ophthalmia.

From Jamaica.

Edward John Spence, De Hepatis Functionibus.
William Turner, . . — Scarlatina.

From Barbadoes.

James Austin, . . De Hepatitide.
Mw. James Chapman, . — Affectibus Animi.
Francis Cobham, . . — Dyspepsia.

From Antigua.

Samuel Sedgwick, . De Rheumatismo.

From Honduras.

Francis Young, . . De Podagra.

From East Indies.

George Alex. Kennedy, De Tetano.
George Waddell, . . — Enteritide.

School of Physic in Ireland, instituted by Act of Parliament for the "Instruction of Students of Medicine, Surgery, and Pharmacy."

THE University Professors deliver annually a short Public Course on their respective subjects.

Lectures on the following subjects are delivered from the 1st Monday in November until the end of the succeeding April, viz. on Anatomy, Physiology, and Surgery, and on Chemistry, in Trinity College. On the Institutes of Medicine, on the Practice of Medicine, and on Materia Medica, and Pharmacy, in Sir P. Dunn's Hospital. The lectures on Botany commence on the 1st Monday in May in Trinity College, and continue until the end of July. Terms for each of these courses are Four Guineas.

Clinical Lectures are given on the cases of the patients in the hospital, at least two days in each week of every session, by one of the professors. Terms of each course, Three Guineas.

Lectures on Pathology, by the Professor of Anatomy and Surgery, are given during the month of May. Terms for these lectures, One Guinea.

Anatomical Demonstrations are given daily, from the beginning of the session until April, by the Demonstrator of Anatomy in Trinity College. The students are superintended in their Dissections, and subjects are provided for the Muscles, Blood-vessels, and Nerves. Terms for dissections, subjects, and demonstrations, Six Guineas; for the demonstrations alone, Four Guineas; for demonstrations and the use of the room, Five Guineas.

Students may be instructed in the performance of Surgical Operations on the Dead Body, and have the necessary number of subjects provided them, for Five Guineas.

Towards the end of the session, a course of lectures is given on the Diseases of the Skin, by the Professor of Anatomy and Surgery; and one on the Diseases of the Eye, by the Demonstrator of Anatomy. Terms for each of these courses, One Guinea.

A course of lectures on Midwifery, and the Diseases of Women and Children, is given in the spring. Terms, One Guinea.

It is intended to add a course on Toxicology and Medical Jurisprudence.

At the Chemical Laboratory, pupils are instructed in Operative Chemistry. Terms of which, Six Guineas.

Botanical Demonstrations are daily given by the professor's assistant in the garden during the season. Terms of which, One Guinea.

The course of lectures on Mineralogy, by the Professor of Natural History, in Trinity College, is open to those who have their names on the books of the University.

Students have admission, two days in the week, to the Collection of Minerals in Trinity College.

Pupils to the apothecary of Sir Patrick Dunn's Hospital are instructed in the Practice of Pharmacy, during three months, for Two Guineas.

Medical Officers of the Army and Navy, and Graduates in the

School, are admitted to attend the Lectures on Anatomy and Surgery, in Trinity College; but, if they purpose to obtain certificates, they are required to pay the usual fee at the commencement of the course.

As qualifications previous to examination for the Testimonium, the certificates of the professors in Edinburgh are admitted for any three of the courses required, with the exception of the Clinical Lectures, which must have been attended in the School of Physic in Ireland.

It will be expected that all students presenting themselves for examination, have dissected at least during one season, and that they are conversant with Morbid Anatomy.

Certificates of attendance on the professors in the School of Physic in Ireland are received, as giving standing in other Universities, and as qualifications for medical officers in the Army, Navy, and East India service. And certificates of attendance on the Anatomical and Surgical Lectures in Trinity College are also admitted in the different Colleges of Surgeons.

The Clinical Hospital is intended to hold one hundred and thirty patients, of whom thirty are selected for instruction and lectures, by the Clinical Professor; the rest are placed under the care of a physician appointed by the governors. Terms for attending the entire practice of the hospital for one year, Three Guineas.

The Medical Library of Sir Patrick Dunn is open to all the students of the school.

Royal College of Surgeons in London.

Court of Examiners.—Candidates to be examined for the diploma will be required to produce certificates——

1. Of having been engaged five years, at least, in the acquisition of professional knowledge.

2. Of having *regularly* attended two courses, at least, of anatomical lectures; and, also, one or more courses of chirurgical lectures, in London, Dublin, Edinburgh, or Glasgow.

3. Of having performed two, or more, *regular* courses of dissection.

4. Of having *regularly* attended, during the term of, at least, one year, the chirurgical practice of one of the following Hospitals: viz. St Bartholomew's, St Thomas's, the Westminster, Guy's, St George's, the London, or the Middlesex, in London;—or the Richmond, or Steevens's, in Dublin;—or the Royal Infirmary in Edinburgh;—or the Royal Infirmary in Glasgow.

5. And, of being twenty-two years of age.

Candidates are to observe, that *Tickets* of *Admission* only will not be received as *Certificates* or *Evidence* of *Attendance*.

Candidates under extraordinary circumstances of professional education, not literally corresponding with the foregoing rules, but deemed by the court, in effect, equivalent thereto, may be admitted to examination.

The above rules are required to be observed by Candidates to be examined for the Testimonial of Qualification of Principal Surgeon in any service.

Additional Regulations.—Persons under the following circumstances, and of the required age, are admissible to examination for the Diploma:—

1. Members of any of the legally constituted Colleges of Surgeons in the United Kingdom.

2. Graduates in medicine of any of the Universities of the United Kingdom, who shall have performed two or more regular courses of Dissection, and who shall have regularly attended during the term of, at least, one year, the chirurgical practice of one of the following hospitals, viz. St Bartholomew's, St Thomas's, the Westminster, Guy's, St George's, the London, or the Middlesex, in London;—or the Richmond, or Steevens's, in Dublin;—or the Royal Infirmary in Edinburgh;—or the Royal Infirmary in Glasgow.

Should doubt of the correctness of any required certificate of age, or *professional education*, at any time arise, such certificate will be retained in the College for investigation, during the pleasure of the court; and should a Candidate for examination be proved to have practised, or attempted, upon the court, imposition relating to any certificate, or otherwise, he will be refused examination for such period as the court, according to the circumstances of the case, may judge proper.—By order, EDMOND BELFOUR, *Secretary.*

AT a Meeting of Officers of the Medical Department of the Army, held at No. 5, Berkeley Street, 8th June 1820, Sir James M'Grigor in the chair, it was proposed by the President, and seconded by Dr Franklin, That a Benevolent Fund be established for the Benefit of the Orphans of Army Medical Officers.

The Army Medical Officers Benevolent Fund is instituted with the view of affording relief to those orphans of army medical officers who may be left under circumstances of particular distress; or who may be enabled, by a small addition of income at a certain period of their lives, to procure a better education than their limited means would otherwise allow; or who may require some assistance on their first establishment in life. Urgent cases of this description must have fallen under the notice of almost every one; and benevolent attempts have frequently been made to procure the requisite aid by means of private subscription. To provide a *permanent* and *separate* fund, expressly calculated to meet these cases of peculiar hardship, appeared to many gentlemen a most desirable object.

The leading feature of this fund is, that it is Benevolent. The objects of its bounty will be selected from among those who produce the strongest claims upon its support. Where there is any equality of claim, the preference will be shewn to the orphans of those whose parents contributed to the fund. Orphans who have lost both father and mother will, if otherwise destitute, be considered to have a superior claim. Those whose mothers are living may be admitted, however, to its benefits, provided the mother's income is inadequate to the education of the orphans. Upon the whole, the nature of the claims which may be made being very indefinite, it is not proposed

to limit the bounty by any specification of age or otherwise. The circumstances of each case will be judged of annually, first by a committee, and afterwards by a general meeting, who will ultimately select the cases proper for relief, and specify the amount to be afforded to each. This will be regulated by the circumstances of each case, and the extent of means, of which the fund may be possessed in each year. It is understood that relief by this fund is always to be afforded in the form of periodical *donations*, and never in that of *annuity*, even for a limited number of years.

A fund, such as may be sufficient for the fulfilment of these objects, it is proposed to raise by means of donations, life, and annual subscriptions. Hereafter it is hoped that the opulent in the department will remember this fund in their testamentary dispositions. Donations will be thankfully received from all officers of the army, and others, who may be desirous of promoting its benevolent objects.

A committee for the management of the fund was ordered to meet on the 1st of September.

Vapour-Baths in Edinburgh.

The application of water, sulphur, mercury, and other medicinal substances, to the human body in a state of vapour, still continues to be employed at the newly erected vapour-bath establishment in this city. We understand that these baths have been successfully used in some severe cases of catarrh, with symptomatic fever,—in gout, rheumatism, and stiff joints,—in syphilis and in lepra. They have also been used in some cases of paralysis, where apoplexy was threatened, and were found not to produce that determination of blood to the head which baths of hot water at a lower temperature had done: but, on the contrary, with immediate relief to the giddiness and painful feelings in the head, and with decided benefit to the weak limbs.

The vapour of opium has also been tried with decided good effect in a case of great irritability, and without any of the inconveniences which frequently follow when it has been received into the stomach. It is now trying in a case of neuralgia, (tic douloureux.) The first number of a work upon the subject by Mr Scott has been recently published by Messrs Waugh and Innes; the second is in course of publication, in which cases illustrative of the practice will be given.

Case of Enteritis succeeded by Cephalitis, successfully treated. By H. S. Belcombe, M. D.

Early in April last, my advice was requested for Mrs F. a young married lady, at Hanley in the Staffordshire Potteries, who, in consequence of slight cold, had felt unwell for some days back. Her brother-in-law, a medical gentleman at that place, had bled her copiously the evening preceding my visit, apprehending symptoms of enteritis. My patient was *belle et bien faite*, of spare and slender make, the mother of two children. Of her previous history I could only learn that she was what is generally called healthy, but subject to severe and frequent constipation of the bowels, which seemed to form the ground-work of her present complaint.

On my visit, I found Mr F.'s fears realized; enteritis was establish-

ed in its most acute form, nor had the previous bleeding produced any mitigation of her sufferings. A vein was immediately opened, and she was bled *ad deliquium*; the warm bath; calomel and nitre of each three grains every four hours, and a solution of manna in strong senna tea, (the only laxative that could remain upon her stomach,) were ordered. Next day the symptoms had remitted, but it was necessary to repeat the bleeding, and to apply many leeches to the abdomen. The bowels were now freely purged, the evacuations black and offensive, to a degree I have seldom witnessed. On the 3d day the mouth was sore; the abdomen free from pain; all the symptoms favourable, except a quickness of the pulse, which, I thought, was attributable to the action of the mercury: I therefore consigned my charge to my medical friend; but I was surprised, on the day but one succeeding, at being requested to see Mrs F. again, and still more so, to find very marked symptoms of inflammation of the brain. These had come on in the course of the previous afternoon, without any intelligible reason, (except that the bowels had become constipated.) I was certain, from the prudence of Mr F., that no stimulant, either in food or drink, had been given. The *intolerantia soni et lucis* was so great, that she could not bear the slightest motion about her, nor hardly permit me light enough to conduct my examination. She complained of intolerable weight and oppression of the head; vivid flashes of light constantly before the eyes; urgent thirst; the tongue was coated; the pulse full and labouring; the skin hot, &c.; no delirium; no pain upon pressure of any part of the abdomen; the mouth still sore. Copious depletion was again had recourse to; a blister to the nape of the neck; the head wrapped in towels kept constantly wet with vinegar and water; large doses of ext. coloc. comp., with calomel twice a-day, assisted by the former mixture of senna and manna, and a mixture of antim. tart. potass. nit. every four hours. The pressure of other engagements prevented my seeing her oftener than every other day, a circumstance I the less regretted, from the constant attendance of her brother-in-law. At every visit but my last, I was obliged to bleed ad del. or until sensible relief was obtained, besides applying numerous leeches every day. She was never delirious, always protruded her arm for the lancet, and expressed the relief she felt while the blood was flowing; it never had a true buffy coat, but the crassamentum was remarkably firm and fibrous. After the second bleeding, the pain was confined to the right hemisphere, on which side a blister was applied and kept open till it formed a running sore. At my fourth visit the pain in the head was sensibly abated, but symptoms of abdominal inflammation had supervened. This the bleeding of that day conquered. The bowels, notwithstanding the large doses of purgatives, were with difficulty kept soluble; the disorder sensibly yielding as the evacuations became more natural. The soreness of the mouth, which never amounted to ptyalism, subsided during the attack, and never again recurred. At my sixth visit, I took leave of my patient with sanguine hopes of her permanent recovery; yet within a week I was

again called to her, in consequence of a severe attack of pleuritis. I understood that the pain in the head had returned a few days after I saw her, and that her brother had found it necessary to continue, in a modified degree, my plan of treatment. As she slowly recovered, difficulty of breathing, pain in the side came on, and at length a very marked case of pleurisy was established. Almost in despair, I again began the evacuating system, and at length had the pleasure of subduing this last attack, but not without repeated bleeding, leeching, and blistering. My patient was by this time terribly worn down, and in my opinion inflammation had nothing to fasten upon. However, a few weeks in the country soon restored her to her usual appearance. I understand that she is since pregnant.

The whole of this case appears to me to be peculiarly interesting, and to afford ample scope for meditation. That the condition of the blood was highly inflammatory, I think there can be little doubt, and from this cause, (however induced,) as the attack on one organ was repelled, another became the object of it. Calomel certainly here failed to equalize the circulation; but then, to use the energetic language of Dr Armstrong, the system was not saturated; and, disappointed in the first instance, I trusted more to the lancet, and only used it subsequently as a purgative. I can only regret that I did not push it further; for I have attended many cases of acute inflammatory disease, when sensible remission was only obtained when full and complete ptyalism was established; and I think I am warranted, from no inconsiderable experience, both in hospital and private practice, in saying, that calomel is a most efficient medicine in fever and other inflammatory diseases. I was therefore sorry to read Mr Sheppard's opinion, as stated in his sensible and well written paper in your July number; however, as I hope shortly to condense my observations, and to shape them in the form of a paper for your Journal, I will for the present no longer encumber your pages.

Newcastle, Staffordshire, November 30, 1819.

Extract of a Letter from Dr S. Sinclair, Royal Tyrone Staff, dated Depot House, Caledon, 15th June 1819.

Having lately visited the French capital, I was pretty assiduous in my attendance at L'Hotel Dieu. The following remarks I noted from the public lecture and demonstration of Monsieur Dupuytren, first surgeon to that fine hospital, while paying his daily morning visit.

A case of dislocation of the hip-joint of the left side was brought to the hospital for reduction, on the 16th March. The accident had occurred, as Monsieur Dupuytren stated, on the 28th December previous, by a fall on the pavement during the frost. The patient was a low robust muscular man, aged about 30 years. There was an inability of moving the limb, which was shortened, and the toes turned inwards.

The patient having been placed horizontally on his right side, on a firm table covered with a mattrass, Monsieur Dupuytren demonstrat-

ed to his pupils, that the trochanter major was forced upwards and backwards, the head of the femur resting on the dorsum of the ilium, and under the glutei muscles, that the knee and toes (as before observed) were turned inwards.

The skin and soft parts being defended by slips of soft linen covered with wax and oil, which encircled the limb, a sheet was passed between the thighs; the ends crossing at the right groin, were placed in the hands of about six assistants, with a view of making counter-extension; another sheet was applied a little above the ancle joint of the dislocated limb, and given to an equal number of assistants, the skin being in like manner protected by soft dressings.

Dupuytren was now at considerable pains to exhort the patient to commit himself entirely to him, as if dead, and not to attempt the smallest resistance, which would counteract his utmost efforts at reduction. And while he directed the extension to be made horizontally by the assistant, he endeavoured to divert the patient's attention from what was going on, by conversing with him on subjects the most interesting to him at any other period, viz. the state of his fortune, if he was married, and the number of his children, &c. with a view of suspending the power of volition on the muscles. While extension was made to the utmost that it could in this way, (but not without subjecting the patient apparently to excruciating pain,) Dupuytren, by pressing with his hand against the head of the bone, seemed to force it in the axis of the brim of the acetabulum; when, directing the extension to be discontinued suddenly, the contraction of the muscles drew the head of the bone at once into its natural situation, and the dislocation was ascertained immediately to be reduced. The proper position and function of the limb being restored, he was placed in a cradle, and cautiously removed.

In the lecture which followed on the subject, after observing the difficulty which writers and practitioners in general have stated to exist against our success in this operation, he remarked that Mr Astley Cooper and Mr Lawrence had advanced in their writings, that the luxation of the hip-joint could not be reduced, if it continued out after the space of eight days.

This case, he said, proved the fallacy of such a statement, from the considerable time that had elapsed from the receipt of the injury, until the period of reduction; and it led him to conclude, that he never should again despair of reducing it, at least after eight days.

On my return to London I mentioned this case to Mr A. Cooper. He thought it interesting, but said that Monsieur Dupuytren had made a mistake with respect to himself; that he must have meant Mr Samuel Cooper, author of the Surgical Dictionary; and that he had himself succeeded in the reduction of dislocated hip-joint cases after a period either of four or five weeks.

About the same time Dupuytren also reduced two cases of luxated humerus, one of eighteen days standing, the other nine days from the accident; the head of the humerus in both was downwards and forwards, lodged beneath the pectoralis major muscle. Counter-ex-

tension was made by means of a bandage passed round the body, and over the opposite shoulder. The extension was made by a cloth applied a little above the wrist, the parts being previously guarded with dressings of wax and oil. The arm being brought to a right angle with the body, a large ball was placed in the axilla, which the surgeon pressed downwards, and sudden relaxation being made, the reduction took place.

Dupuytren remarked, that the British surgeons condemned the place and manner that the French surgeons made the extension; the former always applying it above the intermediate joint of the extremity. He said that it was wholly a matter of opinion,—that one opinion was as good as the other,—that the French found their manner effectual,—and one fact was of more value than one thousand hypotheses.

In cataract, Dupuytren now condemns the operation of extraction wholly. He gives a most decided preference to couching, "*debasement*." In four cases that he operated on at the same time, the results were very different. Of the two operated on for depression, one was a boy of fifteen years. The cataract arose from external violence from the blow of a stick across the eyes. In both no untoward symptom happened; neither local inflammation or pain of the head followed; vision was restored, and they were discharged cured in two or three weeks. The two cases operated on by extraction were equally favourable cases, but the results quite different; and they continued in the hospital for months, he observed, as evidences of the bad effects of extraction. One of them lost an eye by the escape of the vitreous humour and collapse of the eye; the other eye had a protrusion of the iris, with a high degree of inflammation, pain of head and febrile symptoms, which the most active depleting means could not wholly subdue.

The second case of extraction proved equally obstinate from inflammation, and thickening of the cicatrix of the cornea. After repeated bleedings, general and topical, and blistering, &c. faint hopes remained of vision being restored. Dupuytren contrasts the simplicity of couching with these unfavourable results, which admits of repeated trials in case of one failure, to the dexterity required in the other, and still with the utmost manual nicety. He observes, in general, there is almost an unavoidable escape of the aqueous and vitreous humours, with protrusion of the iris; and frequently without these accidents, the thickness of the cicatrix on the transparent cornea prevents the admission of the rays of light to the retina.

Notwithstanding the objections of this eminent surgeon, it must be observed, that the French surgeons generally do not condemn this operation. At the hospital of La Charité, Monsieur Roux is in the habit of practising it with great success, usually, when it is necessary, operating on both eyes at the same time.

Extract of a Letter to Dr DUNCAN, *Junior, from* JOHN EVANS, *M. D. Physician to the Fahan Dispensary, and Member of the Royal College of Surgeons of London.*

THE following case will add another example to the list of fungus hæmatodes proving fatal after an operation for its removal.

The case is singular, inasmuch as we believe this untractable disease has rarely attacked children at so *early* a period. The preparation you will find in the possession of Dr Monro.

W. WHITE, aged 18 weeks, an interesting and otherwise healthy-looking child, was treated at the "Fahan" Dispensary, in consequence of a tumour occupying the middle of the left fore-arm. The tumour evidently was of the description meriting the appellation of Fung. hæmat., and of course little was done for it. On the 14th December 1819 the tumour had acquired an amazing size, and the health of the infant now began to suffer. He had restless nights; peevish; emaciated; and ulceration had commenced on the skin of the anterior part of the tumour. It was evident to the most superficial observer, that, if not relieved by an operation, the little patient must inevitably sink from the violence of the complaint; and the parents wishing it to be done, to give the infant a chance of recovery, it was accordingly performed on the date mentioned. The stump was perfectly healed on the 17th day, and the child slept sounder the night of the operation than it had done for many previous ones.

It continued to thrive and improve for about three months after the operation, when a second tumour appeared in the axilla of the same side; and it gradually increasing, the child died suddenly, and apparently not affected from the irritation of the tumour. This last part of the case I have from report only.

The tumour occupied the whole fore-arm, measuring eleven inches in circumference. It was laid open longitudinally, and appeared to consist of what is termed "cerebral substance," included within cells of various sizes, and passing through which were seen bands of cellular membrane. The bone at the middle of the tumour was denuded of its periosteum. The arteries, from the pressure of the diseased mass, were so far obliterated as to resist the injection, except in a *very small* portion of cutaneous substance.

2d August 1820.

Extract of a Letter from Dr DICKSON *to Dr* DUNCAN.

THE following suggestions, for which I am indebted to Mr Baynton, may be worthy of your notice.

In a late case of mortification of the lower extremity, in which opium and the various remedies usually employed had been resorted to without success, he surrounded the foot, from the toes to about three inches above the limits of the disease, (which had reached the ankle-joint,) with slips spread with diachylon plaster, without resin, making the pressure very moderate at first, and increasing it gradually on each application. The good effects of this measure in ar-

resting the progress of the disease,—in promoting the separation of the sphacelated from the living parts,—in improving the discharge, and abating the constitutional symptoms,—and, finally, in facilitating cicatrization to a considerable extent,—were, in the opinion of Mr Baynton, so conspicuous, as to induce him to believe, that, in a less unfavourable state of the patient's system, it would have been completely successful. But, on the occurrence of the hot weather, morbid action not only appeared in the same foot, but gangrene supervened in the sound limb, and in different parts of the body, and proved fatal.

Clifton, August 1820.

Observations on the Treatment of Gout. By A. Veitch, M. D.

From the frequent occurrence of gout in this neighbourhood, I have for some time paid more than ordinary attention to the treatment adopted in that disease; and having found such decided benefits from the use of local, as well as general blood-letting, but particularly the former, that I have been induced to give it publicity through the medium of your valuable Journal, that a trial of its effects may be more widely extended, and some of your more able correspondents induced more clearly to investigate the *modus operandi*, which, if it tend to a more perfect knowledge of this mysterious disease, my object will be attained. It is by no means my present intention to offer any remarks with a view to the illustration of any opinion I may entertain respecting the cause of this disease, though they may appear necessary, when so widely differing from the practice of the present day; but, as that would lead into a longer detail than what I purpose by the present communication, suffice it for me to state, that I have, like others of my professional brethren, tried, and seen tried in vain, so many and so various means, that I am doubtful whether the remedies have not often been worse than the disease itself; and it is no less painful to see men in all ranks of life swallowing the *ephemeral specifics* of the day, to the ultimate ruin of their constitutions, and substituting temporary cure for permanent mischief, without having it in our power to counteract the deleterious effects of these pernicious drugs. The following plan, however, has at least this advantage,—that we are aware of what is doing, and have it in our power to regulate the means according to the age, strength, and constitution of our patient. But, after every trial which I have made of it, no bad effects were ever produced, even in the most debilitated; on the contrary, it has never failed when properly administered; and I am every day more and more persuaded of its beneficial effects.

I am aware, that the profession are not to be told, that general, as well as local bleeding, has before been recommended, tried, and abandoned; but I am persuaded, it has been abandoned only in consequence of misapplication; and upon its proper application its success chiefly depends.

Leeches, from the nature of the disease, are perhaps the best local application; and it is my usual practice, as soon as the patient begins to feel a fit of gout coming on, and when its determination to a certain part is ascertained by the commencement of *pain* in that part, immediately to apply four or five leeches, never to, or upon, the part affected, though I have seen an attack in the knee entirely removed by the application of leeches to the foot. The greatest attention, however, is necessary, not to apply them after *inflammation* has commenced in the part. The presence of *pain only*, and *not* of *inflammation*, is the time when they ought to be applied; if this is not attended to, the paroxysm, in place of being diminished, will be increased. On the contrary, by paying strict attention to this, the paroxysm will altogether be prevented, as well as its recurrence, by a timely application, (if it should be found necessary by the return of pain.) Should, however, the swelling, pain, and also the *inflammation* have come on so rapidly, or there has been a delay of the application, we must wait till the *inflammation* has somewhat subsided before we can apply the leeches; after which, all the good effects will follow, and the hitherto suffering patient will, in half his usual time, regain the use of his legs and feet. In the event of the head, heart, lungs, or stomach, becoming affected, general, as well as topical bleeding, continued with blisters, and calomel purgatives, will prove equally efficacious. I could give many cases, both of old and young gouty subjects, who have found the most decided relief from this plan of treatment. In young persons, and those who have not had gout, were general, as well as topical, blood-letting, together with other antiphlogistic means, strictly adhered to, on its first commencement, they would have little cause to fear a second attack. An able and learned physician seems to have had similar ideas, when in his (Clarke's) Compendium Praxeos Medicinæ, he says: "An florente ætate, viribusque minime labefactis, prima morbi accessione, sanguinis missio?" And the old gouty patient will feel many of his sufferings alleviated by the timely application of this *local* method; and where the limbs have become stiff from repeated attacks of gout, and the formation of concretions on the joints: "An sarsaparillæ decoct. cum acido nitrico et hydrargyri preparationes ad salivæ fluxum lenem ciendum?"

Description of an Epidemic Fever at Surat, in which Venesection was employed with decided advantage. By Thomas Tod Mardon, *Garrison Surgeon. Communicated to the Editor of the Bombay Courier.*

Some circumstances attending a fever which was very prevalent, and threatened to be very fatal, in a detachment of the Bombay European Regiment doing duty at this station in the beginning of June, appearing to me to be interesting and instructive, as well in their apparent origin as their results, I have thought it my duty to give them publicity through the medium of your paper.

The transfer of the Dutch bunder to the commissioner having ren-

dered it necessary to provide other quarters for the European troops, a building formerly occupied as a mint, and subsequently as a barrack of the Artillery Lascars, was selected as the best the place afforded. It has, however, proved itself most improper for the purpose. Situated in a close crowded part of the town, it is merely a small square area, enclosed by a low wall, from which descends a slanting roof, and would thus be nothing but a shed, but for a matted frame-work inside, composing windows and doors, which, of course, all open to the centre of the square. It has only one entrance, and all the usual barrack offices of cook-room, guard-room, privy, married men's quarters, &c. were all included in the same area, separated from each other and from the men's apartments mostly by matted partitions.

The men were so crowded together, that their cots almost touched, and they had no room whatever to move about. In such a situation, to preserve cleanliness was very difficult, and ventilation impossible, and the causes which generate fever, whatever they may be, soon began to operate. In one month from the 22d of May, 53 men out of 94 (the whole number of the detachment) were attacked by fever; the leading symptoms of which were the following: great prostration of strength and irritability of stomach, acute headach, intensely hot skin, and a hard strong pulse, generally much above an hundred in a minute. During the attack, in most cases the lips and tongue were pallid, the gums transparent, contracted, and horny; the countenance, in some sunk and cadaverous, in others much flushed. In the intervals of attack, the tongue was invariably moist, clean, and red. Several cases were brought in in a state of stupor, from which they did not recover for 24 hours.

In the first four violent cases, I pursued the mode of treatment which former experience led me to believe most likely to be successful; the severity of the headach appeared to forbid the employment of emetics, but the bowels were purged by the most active cathartics, and every attempt was made to effect salivation by the most assiduous use of mercury, both internally and by friction. No amelioration whatever followed this mode of treatment, but as soon as the system became influenced by the mercury, a tendency to putrefaction showed itself in the excessive fetor of the breath, the head becoming swollen, the parotids indurated and enlarged, and the gums sphacelated. I have every reason to believe, in two instances, the œsophagus and stomach partook of the same condition. The four men all died, three of them nearly putrid.

Considering the mercurial treatment not merely to have failed, but, in these cases, to have accelerated death, it became my duty to adopt another, and that which I had the good fortune to pursue has been attended with the happiest consequences, only one man out of 49 having died since, and in him the symptoms evidently denoted effusion of the brain, which I believe to have proceeded to an incurable length previous to his admission in the hospital. These cases were quite as threatening as, or more so than, those which proved fatal,

and the disease may be said to have increased in violence until the men were removed to another situation.

The treatment alluded to was to bleed to the fullest extent the strength of the patient would admit of, as soon as the hot fit was fully formed; this never failed removing it in an hour or two; and then bark, with the sulphuric or nitric acid, was given as freely as circumstances would admit of. On the following day the bleeding was repeated if the urgency of the symptoms pointed out the necessity, and, in the interval, the bark and acid were given as before.

In some cases the bleeding was repeated four times, in others two or three, and in many the first bleeding was sufficient to arrest the disease. Calomel was only used as a purge before the bark was commenced, and then was always combined with scammony or some other active cathartic.

A liberal allowance of wine, with a light nutritive diet, was given throughout the disease.

Blisters were generally found necessary to the head and not unfrequently over the stomach; but the irritation of this viscus being considered symptomatic, never deterred me from the use of bark whenever the intermission was complete.

Spunging the body with cold water and vinegar, and effervescing saline draughts during the heat of fever, were in constant use as auxiliaries, but were not depended on as efficient parts of the course.

I have already stated, that, under this treatment, 48 men recovered, but I by no means intend to say, that the recovery was its simple and immediate consequence; on the contrary, many of those, the obstinacy of whose fever required repeated bleeding, were long in extreme danger, and required the most careful attention to conduct them to a state of convalescence; but these difficulties, and the modes adopted to counteract them, will readily occur to every intelligent practitioner.

The alarming symptoms of this fever ceased altogether in a week after the removal of the men into other quarters in the castle, but relapses are still so frequent since the commencement of the rains, as to make one-third of them constantly patients in the hospitals.

In the above recital I have purposely abstained from every attempt at theory; the facts, to which I have strictly confined myself, were witnessed throughout by Dr Meek, Superintending Surgeon, and Dr Lamb, Assistant-Surgeon, and to their advice and assistance I am happy to acknowledge myself much obliged.

Surat, July 14, 1818.

Establishment of a General Board of Health for Ireland.

THE establishment of a General Board of Health is as interesting to the community at large, as it is to the medical profession. In its operation every one is deeply interested, and it may be productive of much inconvenience or of great advantage, accordingly as it is established upon just or false principles. Medical Police is in fact not so much a professional study, as a branch of the science of Political

Economy. Its object is the preservation of the general state of health, by obviating the general causes of disease. The state of Medical Police in the British empire and in Germany is strikingly contrasted, and in neither is it founded upon sound principles. Except our quarantine regulations, and the inefficient corporation privileges of the various branches of the profession, we have no permanent medical police, and local or occasional circumstances influence its application; while, in Germany, a mistaken policy of regulating every thing connected with health, has led to the formation of a cumbrous code of contradictory, and often hurtful enactments.

The philosophy of Medical Police does not differ from that of the other branches of Political Economy, and its objects are to be obtained by facilitating the acquisition and dissemination of the relative information, with as little enactment as possible, and no tendency to extend, or create, monopoly. We cannot therefore adequately express the satisfaction with which we have perused the first fruits of the General Medical Board established in Dublin, upon the soundest principles of political science.

The Board is of a mixed nature, neither consisting entirely of professional men, nor excluding them altogether. The lay members, if they may be so called, are not selected on account of their holding high official situations, which would interfere with their attending to its business, but from those individuals who have, by their past zeal in the service of the poor and the public during the late epidemic, given the strongest guarantee of their future exertions, and whose rank in society is sufficient to give them due effect. The professional members consist of the heads of the Medical Department, for reasons sufficiently obvious, and of some others distinguished by their zeal and activity.

It is not a little recommendation of this Board, that, except a bare remuneration to the Secretary for time and labour, it costs the public nothing. It may do much good; it cannot do any harm; for it has no control over the profession, it enjoys no patronage, nor possesses any exclusive rights. But its objects, and the means which it has devised for attaining them, cannot be so well explained as by reprinting the warrant of the Lord Lieutenant, the instructions furnished to the Board by our enlightened countryman, the present Secretary of the Irish Government, and the Queries circulated by the Board; and we trust that, ere long, similar Boards will be established both in Scotland and England, which they might be-at no other expence than enabling them to conduct their correspondence free of expence. In the mean time, we shall feel gratified if the circulation of the queries should procure from our correspondents communications on the causes, progress, and decline, of epidemic disease in any part of the empire or its dependencies.

By the Lord Lieutenant General, and General Governor of Ireland,

TALBOT.

WHEREAS, it is deemed expedient, that a General Permanent

Board of Health should be formed in the city of Dublin, for the purpose of inquiring into the state of the public health, and of ascertaining the causes, which may, at any time, tend to injure or improve it—We do hereby nominate and appoint John David La Touche, Peter La Touche, William Disney, Robert Perceval, M. D., George Renney, M. D., Philip Crampton, Esqrs., Rev. James Horner, John Cheyne, M. D., Samuel Bewley, William Harding, Thomas Crosthwaite, John L. Maquay, Francis Barker, M. D., and Francis Lear, Esqrs. to be a Board of Health, for the above purposes accordingly.

Given at his Majesty's Castle of Dublin, the 27th day of March 1820, *by his Excellency's Command,* (Signed) C. GRANT.

Plan of Regulations for the Guidance of the Board of Health; as communicated to the Board by Mr Grant.

1st. To obtain the earliest information respecting the appearance of Epidemic disease, either of foreign or domestic origin; to trace it in its progress, and to ascertain the causes of its rise and diffusion.

2d. To collect information from intelligent individuals in every part of the kingdom, including Members of Parliament, the Clergy of different denominations, Magistrates, and Governors of Hospitals, and Dispensaries, on the actual condition of the Poor, and the circumstances which affect their health, as to locality, occupation, state of dwellings, supply of fuel, food, clothing, or education.

3d. To digest the information thus collected into a methodical form, so contrived, that, by contrasting the state of the poor in different districts, it shall afford a just estimate of the operative causes of diseases.

4th. To obtain authenticated reports on the measures used in other countries, to secure the public health, together with an account of their success, so that, if it shall be deemed expedient, similar measures may be adopted in this country.

5th. To procure statements from different parts of Ireland, on the means which have been lately resorted to, in order to obviate sickness, and to ascertain those causes which have principally contributed to success or failure.

6th. To inquire into the organization of hospitals intended for the relief of contagious disease, in order to adapt them to existing circumstances; and, as far as possible, to bring such institutions under a general system of improved regulation.

7th. To ascertain the places where dispensaries are established; how they are governed; how the medical duties are discharged, and what benefits the poor derive from them; and to acquire correct information as to the state and management of their funds.

8th. To be a medium of communication between charitable institutions for the prevention of sickness in different parts of the kingdom; to supply information, as to the best modes of conducting such establishments, so that each may avail itself of the expe-

rience of the rest, and be instructed as to the best and most direct modes of obtaining its object.

9th. To communicate information to Government on all the preceding topics; and to present a general report at stated periods, on the result of such inquiries.

10th. To submit, for the consideration of the Government, such measures of police, as are likely to improve the public health, and require the sanction of the executive government, or the support of positive law.

Queries proposed by the General Board of Health.

I. *Dwellings.*—1. Are the dwellings of the poorer classes so situated, in general, as to be not unfavourable to health? Is there much bog, or marsh strictly so called, in your neighbourhood?

2. Is the substratum, or rock of the country, limestone, slate, granite, or of what other material is it composed?

3. Does the custom prevail, of forming deposits of putrefying vegetable or animal matter near the dwellings of the inhabitants? Have means been employed with success for the prevention of such nuisances?

4. Do any facts evince the unwholesomeness of the effluvia proceeding from water in which flax has been steeped, contiguous to the habitations of the poor?

5. Of what materials are the cabins mostly constructed? Are they often built in part below the ground? What apertures have they for the admission of air and light? If provided with windows, are these so constructed, as to admit of being occasionally opened? Are the dwellings of the poor in general constructed with chimneys?

6. What improvements in the construction of their dwellings, conducive to dryness, ventilation, and light, are practicable? Are the poor disposed to adopt such improvements? Be so good as to describe the general internal state of their dwellings.

7. Are their cabins much crowded, particularly in the night time?

8. Do the inhabitants lie promiscuously; and are cattle sheltered in their dwellings?

9. What is the condition of the poor inhabitants as to bedding? Do they sleep on straw, heath, rushes, or dried leaves?

II. *Clothing.*—1. Of what materials does the clothing of the poor generally consist? Is much or any attention bestowed on its renewal or cleansing?

2. Can you adduce any facts in proof of the opinion, that disease is extended among the poor by infected clothing?

3. Are the habits of the lower classes in your neighbourhood cleanly? If not, what methods are most likely to introduce cleanliness? has any plan for this purpose been put in practice in your neighbourhood with success?

III. *Diet.*—1. Is the diet of the lower classes sufficient as to

quantity; and is it of good quality? Does it give origin to disease or further its progress?

2. Be so good as to state the price of Bread, Potatoes, Oatmeal, Milk, and Salt, generally in your neighbourhood, with the average price of each of these articles throughout the year.

3. Does fish form a considerable article of diet amongst the people? Are fisheries encouraged? Do any, and what obstructions exist to the further extension of the fisheries; and by what means are these obstructions likely to be removed?

IV. *Fuel.*—1. Is turf the only fuel in your neighbourhood, or is there any considerable and regular supply of coal?

2. Are the poor well supplied with fuel? Has the want of this article favoured the extension of disease?

3. In the mode of burning their fuel, are any changes practicable, likely to diminish its consumption and promote ventilation?

V. *Employment.*—1 What are the wages of labour in your neighbourhood? Is there sufficient employment for the poor? Can you propose any means of employment productive to the community or to individuals, suggested by the locality of your district?

2. How are females employed, and what are the daily benefits which may accrue to a family from such employment? State also the effects of different kinds of employment on the health of the poor.

VI. *Contagion.*—1. Do any customs, contributing to extend febrile or other infection, at present exist amongst the poor? If so, can these be opposed or counteracted with any probability of success?

2. Are mendicants numerous? Can you state any facts in proof of the communication of disease, by strolling or other beggars? Can you point out any causes which produce or promote mendicity?

3. Is fever now prevalent in your neighbourhood? If so, does it spread through families? State what has been the general prevalence of fever, within your memory, amongst the poor.

4. Are persons attacked with fever speedily removed to an hospital; and are measures employed to purify the clothing and bedding of such patients, or of their families? And if this is the case, be so good as to state particularly these or other preventive measures. Also, if any mode of cleansing the walls and furniture of infected houses has been resorted to with success.

5. Have the lower classes readily concurred in the measures of prevention which were generally recommended for adoption, during the progress of the late Epidemic Fever?

6. What means appear to you most likely to remove their prejudices, and to convince the sufferers, that cleanliness of all kinds, free admission of air and light to houses and cabins, warm and dry clothing, the avoiding excessive fatigue and night air, and the immediate separation of the sick from the healthy, during the prevalence of epidemic disease, are their best and surest preservatives from danger?

VII. *Endemic and General Diseases.*—1. Are any other diseases

prevalent in your vicinity, and from what causes do they chiefly originate?

2. Does the Small-pox often make its appearance? Does it prove fatal to a large proportion of those whom it seizes? Is Vaccine Inoculation generally and successfully practised?

3. Do any manufactures, peculiarly injurious to health, exist in your neighbourhood? How do they operate, and how are their bad effects to be remedied?

4. Are spirituous liquors consumed to excess by the middle and lower classes in your neighbourhood? To what extent is malt liquor in use amongst them? Do you think that the habit of intoxication gains ground amongst the poor? If you can devise any practicable means of checking so serious an evil, state them in detail.

5. Do any charitable Societies exist in your neighbourhood, for the relief of the poor during sickness, and for the encouragement of good and healthful habits? Can you suggest any mode of extending these societies, or rendering their operations more efficacious?

6. Please to supply any information which may not be connected with the foregoing Queries, but which you shall judge to be material in elucidating the origin and progress of such distresses of the Poor of Ireland as have a tendency to produce, to propagate, and to continue disease amongst them.—And point out any practicable measures, whether of a general or local nature, which, if duly enforced by Government, and by benevolent individuals or societies, may lay a foundation for the gradual improvement of their condition. This query is not meant to comprehend *Education*, because it must be allowed, that Schools for the religious and moral instruction of the lower orders of Ireland, extensively formed, and carefully superintended, should accompany every measure which may be devised for the permanent advantage of the country.

7. To conclude—As the people of any country can be effectually benefited only by their own exertions, the importance of such exertions ought to be impressed on their minds by every possible means. —Your opinion is therefore particularly requested as to the measures which have a tendency to excite and keep up such a laudable spirit amongst them, under the varying influence of favourable or adverse circumstances.

St George's Medical School.

THE Lectures on the Laws of the Animal Economy and Practice of Physic, with Pathological Demonstrations; and the Lectures on Therapeutics with Materia Medica, by Dr Pearson;

The Lectures on Chemistry, by Professor Brande;

And the Gratuitous Lectures on Surgery of Sir Everard Home to the Pupils of St George's Hospital, will commence, as usual, the first week of October.

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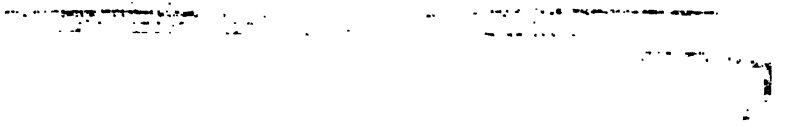

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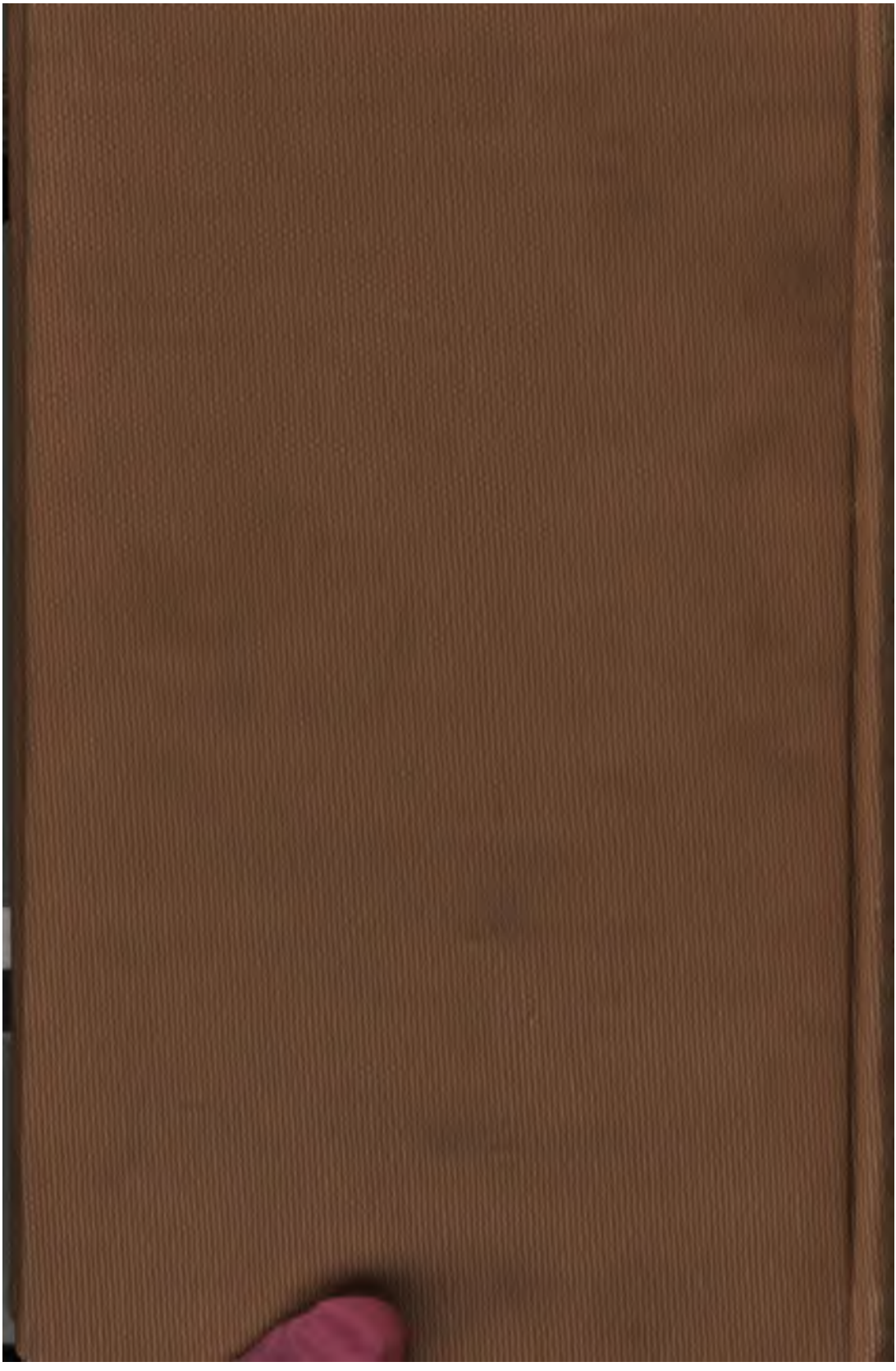

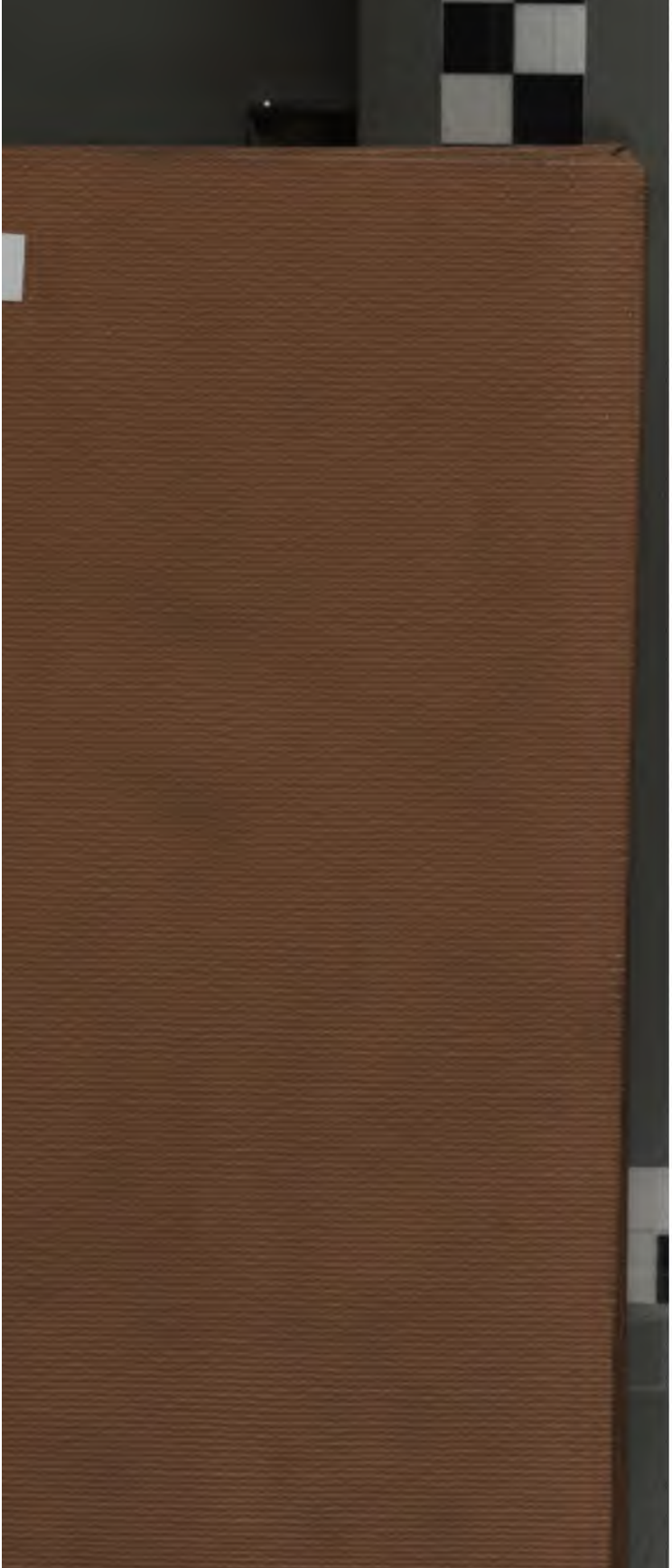

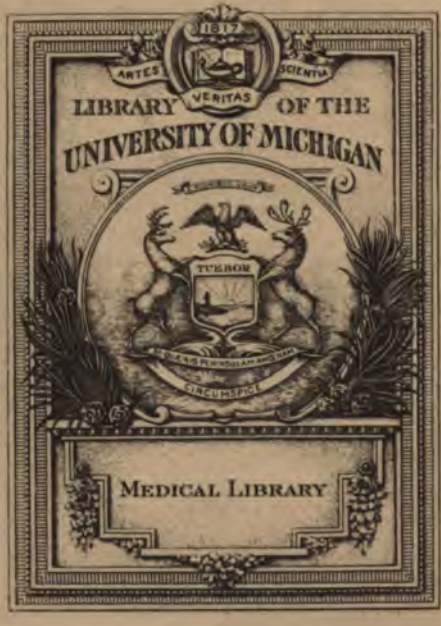
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OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

MEDICINE, SURGERY, AND PHARMACY.

VOLUME SEVENTEENTH.

1821.

EDINBURGH:
Printed by the Heirs of D. Willison,
FOR ARCHIBALD CONSTABLE AND COMPANY, EDINBURGH;
LONGMAN, HURST, REES, ORME & BROWN, LONDON;
AND JOHN CUMMING, DUBLIN.

1821.

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The following Publications have been sent to us for Review:

Medical Transactions, published by the College of Physicians in Londo Vol. VI. 8vo, London, 1820.

Lectures on the Structure and Physiology of the parts composing the Sk leton, and of the Diseases of the Bones and Joints of the Human Body; pre ceded by some observations on the influence of the Brain and Nerves, d livered before the Royal College of Surgeons of London in the Summer of th year 1820. By James Wilson, F. R. S. 8vo. Lond. 1820.

General Elements of Pathology. By Whitlock Nicholl, M. D. M. R. I. A F. L. S. 8vo. Lond. 1820.

An Inquiry into the Nature and Causes of Animal Heat and Inflammatio By John Byrn, M. D. 8vo. Dublin, 1820.

Elements of the Theory and Practice of Physic; designed for the use o Students. By George Gregory, M. D. 8vo. Lond. 1820.

A Treatise on the Plague; designed to prove it contagious. By Sir Arthu Brooke Faulkner, M. D. 8vo. Lond. 1820.

A Treatise on Dyspepsia or Indigestion. By J. Woodforde, M. D. 8v Sherborne, 1820.

A Synopsis of the Diseases of the Eye, and their Treatment: To whic are prefixed, a short and anatomical Description and a Sketch of the Physio logy of that organ. By Benjamin Travers, F. R. S. 8vo. Lond. 1820.

A Practical Treatise on the Diseases of the Eye. By John Vetch, M. D 8vo. Lond. 1820.

A Statement of Facts, tending to establish an estimate of the true value an present state of Vaccination. By Sir Gilbert Blane. 8vo Lond. 1820.

Observations on Variolous Inoculation and Vaccination; in a Letter to Friend. By J. F. Hulbert. 8vo. Lond. 1820.

Observations on the Cheltenham Waters, and the Diseases in which they a recommended. By James M'Cabe, M. D. 8vo. Cheltenham, 1820.

A Chemical and Medical Report of the Properties of the Mineral Waters o Buxton, Matlock, Tunbridge Wells, Harrogate, Bath, Cheltenham, Leaming ton, Malvern, and the Isle of Wight. By Charles Scudamore, M. D. 8v Lond. 1820.

A Toxicological Chart, in which is exhibited at one view the Symptom Treatment, and Modes of detecting the various Poisons, Mineral, Vegetabl and Animal; according to the latest experiments and observations. By Member of the Royal College of Surgeons in London.

Outlines of Midwifery, developing its Principles and Practice; with twel Lithographic Engravings. By. J. T. Conquest, M. D. F. L. S. 12mo. Lon 1820.

The Dentiste de la Jeunesse, or, the Way to have sound and beautif Teeth, preceded by the Advice of the ancient Poets, upon the Preservation the Teeth. By J. R. Duval, Dentist. 8vo. Lond. 1820.

A Reply to certain oral and written Criticisms, delivered against an Ess on Lithotomy, published in the January Number of the American Medic Recorder. By Granville Sharp Pattison, Esq. 8vo. Philadelphia, 1820.

Ricerche Mediche su i Bagni a Vapore a di Calorico, e Sulle Fumigazio di Sostanze Ammoniacali e Balsamiche, di Zolfo, di Mercurio, &c. &c. d Dott. Paolo Assalini. Tom. I. 4to. Napali, 1820.

Revue Medicale Historique et Philosophique. Par MM. V. Bally, B langer, F. Berard, Bestieu, Bousquet, Delpech, Desportes, Double, Dum Esquirol, Gasc, Giraudy, Jadioux, Laurent, Nicod, Prunelle, Rouzet. 1re Ann IV. et V. Liv.

THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1821.

PART I.
ORIGINAL COMMUNICATIONS.

I.

Observations on Cholera Morbus and other Diseases, which prevailed epidemically among the Soldiers of the 56th Regiment, stationed at Port Louis, Mauritius, in the end of the year 1819 and beginning of 1820. By JOHN KINNIS, M.D. In a Report addressed to Sir JAMES M'GRIGOR, Director General of the Medical Department of the Army, and communicated by him to the Editor.

SIR,—During the most fatal period of the epidemic, which lately swept this colony with such cruel violence, I happened to be in a great measure in charge of the 56th regimental hospital, and, at the desire of Dr Burke, Inspector of Hospitals, and principal medical officer in the island, I have now the honour of giving you some account of the observations I had occasion to make on that and certain other diseases which occurred about the same time. The patient study and minute record of symptoms, I found too frequently incompatible with the harassing calls perpetually made on my attention, and the immediate interests of the men entrusted to my care; and you will, I trust, accept this as a sufficient apology for the necessary imperfections of the present communication.

The 56th regiment marched from the windward to the leeward side of the island, on the 25th July last, 827 strong. Of this number, 108 were detached to form a working party in the wood betwixt Mahebourg and Port Louis; 139 to different other outposts; 84 invalided or sent home with the 22d regiment; and 506 remained at head-quarters.

The *following table is given as a* standard of comparison.

It shows the number of admissions (excluding surgical cases) from the regiment's arrival in Port Louis to the termination of the epidemic. The men at work in the wood having been partly withdrawn in September and wholly in October, and the other detachments occasionally changed, the number remaining at head-quarters is placed at the top of the column for each month. It is only of the diseases included within brackets that any account shall be here attempted; as these all occurred about the same time, had certain symptoms in common, and greatly exceeded in number the ordinary rate of admissions, we may perhaps safely assume that they all depended on the same cause, modified in its operation by peculiarities of constitution, habits of life, and circumstances of exposure. Of the 138 cases, about forty were treated by Mr Markham, surgeon of the 56th regiment, and the remainder by myself; but, it is necessary to premise, that my observations shall be wholly taken from my own cases, with the exception of two fatal ones, for which, with his permission, I am indebted to Mr Markham's diary.

Diseases.	Number Admitted each Month.							
	July. 505	Aug. 506	Sept. 564	Oct. 536	Nov. 617	Dec. 598	Jan. 617	Total.
Apoplexia,	1							1
Ascites,							1	1
Catarrhus,		1						1
Cephalalgia,							1	1
Colica,	1		1	1	2		2	7
[Cholera lethalis,					2	12	1	15 [
[Cholera mitior,			1		2	28	11	42 [
[Diarrhœa, &c.					2	17	6	25 [138
[Vomitus, &c.					5	17	1	23 [
[Signa anomala,						30	3	33 [
Dysenteria,		4	2	2	5	1	4	18
Epilepsia,		1					1	2
Febris ephem.*	1	5	1	6	3		7	23
Febris interm.		1					1	2
Febris rem.				1				1
Hæmoptysis,				1	1			2
Hepatitis,	1	5	3	3	4	1	4	21
Icterus,						1		1
Nephritis,					1			1
Phthisis,								1
Pneumonia,		2	1	2	1		1	7
Rheumatismus,		1	1	2				4
Splenitis,					1			1
Vomitus,*			3	2		1		6
Total,	4	20	13	20	29	109	44	239

* Mostly arising from inebriety.

The violent form of the disease was preceded, in one case, by constipation, and, in two others, by diarrhœa, of some days duration; but the greater number of patients enjoyed their ordinary health within a few hours of the attack. It generally commenced with headache, vertigo, lassitude, tormina, or tension and uneasiness in the abdomen; and, though these symptoms were sometimes absent, and often so slight as to pass unnoticed, in the general account which the person gave of his sufferings; yet, in one case, they were judged sufficiently important to require medical aid, and diarrhœa, the first symptom to which the patient usually pays much attention, did not here occur, until about an hour after he had taken an ounce of Epsom salts.

The case alluded to is the only one in which diarrhœa did not come on spontaneously; the evacuations were generally most numerous on its first occurrence; after admission into hospital, they seldom exceeded one or two every hour; in one case they were completely suppressed, but in another amounted to twenty the three first hours. The first evacuation was copious, those which followed more scanty, and remarkably uniform; they consisted of a clear colourless fluid, thinly interspersed with white flakes, and strongly resembling pus diffused through water; in a single case, they were reddish, mucous, and attended with tenesmus; in two others, tenesmus was present after the diarrhœa had ceased.

This symptom was always accompanied, either in its commencement or very soon afterwards, by nausea and thirst; but three or four hours generally elapsed before vomiting occurred; once only the stomach was emptied before, and, in another case or two, at the same time with the first evacuation from the bowels. When this event had taken place, the patient's thirst had become unquenchable, and vomiting was repeated as often as he yielded to its irresistible demands. The fluid rejected was of course the last liquid ingesta, almost always in a state of great purity; one patient, with much retching, discharged a green-coloured mucus, another said he had thrown up a green and sour but not bitter fluid before admission; two patients vomited each two lumbrici, and a third patient one. Retching was by no means common.

Soon after the occurrence of vomiting, the muscles of the extremities were attacked with spasms; their bellies swelled up into hard knots, very conspicuous even at some distance, and became the seat of insupportable pain. A single paroxysm seldom lasted longer than a few seconds; but they shifted from one muscle to another, and continued to recur until within a

short time of the patient's death. Sometimes their intermissions were hardly perceptible, in other instances, an hour or half an hour long. They were never observed to attack more than one muscle, or at least one set of muscles at the same time. They were now and then entirely confined to the calves of the legs, and always more frequent in these parts than elsewhere. Sometimes they commenced in the toes or soles of the feet, and successively attacked the legs, thighs, and arms. They were seldom confined to one side, and generally attacked the corresponding muscles in the opposite limbs. The upper extremities were rarely affected. In one case, the muscles of the right cheek, and in another, the muscles of the abdomen, were attacked, but these are the only unequivocal examples of their occurrence in any other parts than the extremities.

The severity or frequency of the cramps bore no evident relation to the danger of the disease; for though, in some of the worst cases, they formed the principal complaint, in the eyes of the patient, yet, in two or three Europeans, they were late in occurring, or only casually mentioned, and, in a Mozambique, who died eleven hours after reporting himself sick, they seem to have been absent altogether. *

The strength of the pulse began to sink at a very early period of the disease; when first examined, it was in general extremely feeble, soon after intermitted, became more and more feeble, until it could not be counted, and left the wrist altogether, some hours before death. In one case, however, it is stated to have been full and strong, and, in one or two others, of moderate strength, on admission. It was once preternaturally slow, twice of the usual frequency, and, in all the other cases, from 100 to 120 in the minute.

Lassitude and giddiness have been already enumerated among the earliest symptoms, and the muscular power continued to diminish in proportion to the force of the circulation. One patient, about an hour after the attack, was seized with such debility, in obeying the first call to stool, that he walked, with infinite difficulty, a distance of fifty yards; another, after voiding loose stools, and vomiting several times, during the day, suddenly found himself in the evening bedewed with a co-

* This was a government slave attached to the hospital, and the only Black I have myself treated; yet, I have seen more than a dozen patients of colour, under the treatment of other medical officers, and, in no single instance did I happen to be present when cramps occurred. From the testimony of those gentlemen, I entertain not the least doubt that Blacks are liable to cramps in this disease, though, I cannot help thinking, that they are much less so than Whites.

pious perspiration, and so feeble, that it was necessary to carry him off the parade; and a third came into the surgery, complaining of pain in the abdomen, and dropped down senseless, before he could get farther in the description of his sufferings. In the greater number of cases, however, the accession of debility was by no means so sudden or striking. On Christmas morning, for example, a man breakfasted with indifferent appetite, and went twice to stool a little after 10 o'clock; but attended divine service at 11, and, in returning from church at 1, was attacked with nausea, vomiting, and diarrhœa. When first seen in hospital, at half-past two, his pulse was 116, and moderately strong, yet, a few minutes after 9 the same evening, he breathed his last. Another patient, six hours from the first attack, walked a considerable distance to the hospital, without assistance; and, in order, as he said, to drive away the cramps, continued to perambulate the ward an hour and a half, until the arrival of the medical officer: in eight or nine hours more he died.

The general surface was pale, the features collapsed, the countenance impressed with hopeless anxiety, and the forehead sometimes covered with drops of sweat. With one exception, in which the disease was ushered in by a cold fit, the patients all complained of burning heat, in every part of the body. This sensation made them exceedingly restless, toss about in bed, and throw off their coverings; at the same time, the perspiration not unfrequently overspread the whole surface, and the temperature, which had been sensibly below the natural standard from the beginning, sank rapidly, the extremities, in particular, acquiring an icy coldness; this was more remarkable in the hands and fore-arms than in the lower limbs, the patients being more solicitous to uncover the upper than the lower parts of the body. The perspiration was cold only on parts exposed to the air. Several patients exclaimed, on immersion into the warm bath, that it was scalding hot; whilst the hand of a person in health could bear it without inconvenience, for any length of time.

In two cases the tongue was furred on admission; in all the rest clean; it sometimes became furred before death.

One patient had a constant desire, but could void no urine; and the only other, in whom this secretion was attended to, voided none after the first attack.

Such were the symptoms before and on admission into hospital. The subsequent treatment produced in them considerable modifications, which remain to be noticed.

The diarrhœa became less and less frequent till it disappear-

ed altogether; cathartic enemas, exhibited a few hours after admission, were seldom returned; and no patient had a stool of any description for at least four or five hours before death.

The tormina, which had preceded or accompanied the attack of the disease, generally ceased before the vomiting commenced; and the vomiting, when attended by nausea and retching, produced considerable soreness in the præcordia and hypochondria; but in two cases only was there a fixed pain and tenderness of abdomen.

Unless the patient had self-denial to refrain from drink, or to take it in the most sparing quantity, no measures resorted to were of any use in checking vomiting; yet, in one case, this formidable symptom appears to have ceased spontaneously: a piece of lint, soaked in laudanum, had been applied to the epigastrium, and half a drachm of the same tincture given internally, without any decided effect: his tongue being furred, it was resolved to try an emetic of ipecacuan and tartarized antimony; he vomited none from the moment of its exhibition, but survived it very few hours.

The warm bath was generally grateful to the feelings, after patients had overcome the shock produced by the sudden change of temperature; in one case only, it gave rise to insupportable anxiety, and could not be used longer than two minutes. It frequently increased the strength of the pulse, diminished the violence of the cramps, and restored to the extremities their natural warmth; the two first effects were momentary, the last remained some hours, if the patient could be persuaded to keep himself under the bed-clothes. In addition to these good effects, it produced another, which was certainly far from beneficial, a copious flow of perspiration, when this symptom had not previously existed, and an amazing increase of its quantity when it had.

A propensity to sleep generally followed the exhibition of opium, and the patient sometimes peevishly entreated that he might be left to his repose, but his anxiety and restlessness continuing, he could never properly gratify his inclinations. If the quantity of opium had been very large he dosed much, or fell into a state of stupor, from which he was only roused, from time to time, by the recurrence of cramps or vomiting.

Whether from internal feeling, or remarking the fate of their fellow-sufferers, few, if any, of the men attacked had the smallest hopes of recovery; and the settlement of each one's little worldly affairs was among the first objects that occupied his attention. The intellectual faculties remained unimpaired till the moment of death, excepting in a patient, who became af-

fected with low delirium, after quitting the hot bath, and in the black formerly adverted to, who wanted to get out of bed shortly after admission, saying he was again in perfect health.

For a longer or shorter time before death, the nails, lips, and sometimes the extremities, were of a livid colour; respiration was performed with the mouth wide open; the tongue felt cold, like a part detached from the living body, and the skin of the hands was formed into wrinkles, as if from long immersion in water.

The shortest period in which any case terminated fatally was seven hours from admission, the average period nine or ten. Two patients, after being considered out of danger, fell victims, both on the twelfth day, either to the shock produced by the disease on the constitution, or to the quantity of calomel taken into the system. One of these cases shall be presently detailed.

Out of fifteen cases, of which this account of the symptoms may be considered a pretty full abstract, three only recovered. In the prefixed table, I have denominated them *cholera lethalis*, from the frightful rapidity of their course, and almost inevitably fatal termination. The term spasmodic cholera, adopted by Curtis, in his very excellent description of the disease, could have been applied with no propriety to the form which it put on in this island.

I perform a very painful duty in detailing the following case, for it appears to me extremely doubtful, whether the patient was cut off by the disease or by the remedy. At the time of its occurrence, I had tried most of the remedies usually recommended, without the smallest success, in two cases; I had heard of their failure in many more, and, in so desperate a disease, I felt justified in pushing a new remedy to what, under any other circumstances, I should have considered most unwarrantable excess.

Robert Reed, aged 42, eastward of the Cape 15 years.

December 4, half-past 7 A. M.—Transferred from the surgical ward, where he has been under treatment, since the 19th ultimo, for ulcers of the legs. About eight o'clock last evening, he was attacked with looseness, to which, in the course of an hour, were added tormina, and, at four this morning, severe headache, nausea, and vomiting. Since midnight he has suffered, every now and then, from painful cramps of the feet and legs. The pain of abdomen is now constant, but not aggravated on pressure; his countenance expresses the greatest anxiety, and, a few minutes ago, he groaned with pain. The matter passed by stool resembles pus diffused in water. Pulse 102 and very feeble; extremities colder than natural, though covered with the bed-clothes; at this moment the left gas-

trocnemius muscle is swollen up with cramp; tongue furred in the back part; urgent thirst; abdomen much retracted. His abdomen was fomented at three in the morning.

Let the legs and arms be vigorously rubbed with spirits, a scruple of calomel given, a warm bath administered, and a rubefacient of mustard, garlic, and capsicum, applied to the præcordia. Let him drink rice-water, with two ounces of spirits to the pint.

Half-past 8.—He has vomited once since he came out of the bath; extremities retain the heat which they there acquired; pulse 102, rather stronger.

Repeat the calomel, with a grain of opium.

Mid-day.—He did not again vomit until a few minutes ago, and then only a mouthful of the fluid he had been drinking. Has taken four ounces of spirits mixed with congee-water. Cramps have affected the muscles of his legs only three times since he was in the bath, and he complains much less of the pit of his stomach; pulse 102, more feeble, and intermitting six or eight times in the minute. A drachm of laudanum, an ounce of spirits, and two ounces of warm congee-water, have just now been given, and rejected by vomiting.

Let him have a scruple of calomel every hour, and an enema every half hour until it operates, consisting of an ounce of tincture of rhubarb, half an ounce of Epsom salts, and six ounces of hot rice-water; weak grog for ordinary drink.

5 P. M.—Has taken three 20 grain doses of calomel, and had five enemas. He has vomited frequently, and probably retained none of the calomel. The first enema was kept about ten minutes, the others discharged almost immediately, without any feculent matter. From the beginning he has had a sensation of burning heat over the whole surface; to the feelings of another, his abdomen only is hot, legs and feet cool, upper extremities (which he constantly exposes) cold; face covered with a cold scanty sweat; pulse 114, and extremely feeble, but not intermitting; pain of præcordia equally severe as in the morning; thirst continues most urgent, and he generally rejects his drink the moment after taking it; tongue clean; dislikes congee-water and spirits, saying the latter "burns his inside;" prefers tea, and expresses a desire for an anodyne and fomentations to the epigastrium. The sinapism has just been removed.

Let him have now a scruple of calomel, with a grain of opium, and an hour hence, an ounce of salts and two ounces of the infusion of senna. Foment the abdomen with hot water.

8 P. M.—He has vomited none since he took the calomel and opium. The evacuations from the bowels, though still liquid, are of a yellowish red appearance, the former shade of colour probably depending on the presence of bile; hands cold, feet only cool; pulse 102, very feeble; continues to complain of the præcordia; has this minute vomited a considerable quantity of coffee he had been drinking; cramps in the calves of the legs three or four times since 5 o'clock; fingers much wrinkled; he lies with his mouth open, and

his tongue is cold; constantly throws the coverings from the upper parts of his body. The salts and senna were not given.

When he shall have been half an hour without vomiting, let him take an ounce of Epsom salts, and two ounces of infusion of senna; if he reject these, let him have a scruple of calomel and a grain of opium, every two hours during the night.

December 5, 6 A. M.—He rejected the cathartic draught almost instantly; again vomited at five this morning, and begins to do so just now. He ascribes all this to the rice-water. Has taken four scruples of calomel, with a grain of opium to each: the first dose was probably rejected. Several pale, brown, liquid stools; pain of præcordia less severe; cramps, once or twice, in the calf of the left leg; has slept altogether about two hours, but not longer than twenty minutes at any one time. Pulse 81, not more feeble than it was last night; hands and feet cold.

Continue the calomel, without opium, every second hour; let him take two ounces of senna tea, rendered palatable with sugar; and have bottles of hot water applied to the feet.

11 A. M.—He has had the uncommon fortitude to disregard the importunate solicitations of his thirst, and has vomited none since six o'clock. Two scruples of calomel taken. Pulse 78, and stronger; very little pain of præcordia; no alvine discharge; feet have been warmed by the bottles; he loathes every thing in the shape of nourishment.

5 P. M.—He has slept the greater part of the time since last report. Has taken three doses of calomel, and two or three spoonsful of chicken broth. No evacuation, either from the stomach or bowels; feet continue warm, though the bottles were removed at eleven o'clock. Pulse 80, tolerably strong; tongue warm; two ineffectual efforts at stool; some headache; no pain of præcordia.

Continue the calomel; give him four ounces of senna infusion, and repeat it at the end of three hours; if he vomit this, let him have an enema of salts and senna.

December 6, half-past 6 A. M.—No vomiting the last 24 hours. The senna was not repeated. At nine o'clock, P. M. he was found asleep, and was ordered an enema of salts and tincture of rhubarb, when he should awake, which he did about midnight. He has since had a yellowish brown liquid evacuation; slight vertigo; tongue moist, and covered towards the back and sides with a dark brown fur; no great thirst; extremities warm; pulse 68, of tolerable strength; hands not wrinkled.

Omit the calomel. Of salts two ounces, infusion of senna six ounces, oil of peppermint six drops, let him take an ounce every hour until it operates.

Half-past 7 P. M.—Has taken the medicine as directed, without any cathartic effect being produced. Feels very uneasy in the abdomen, and has made several vain efforts at stool; no vomiting; very little thirst; pulse rather slow, of natural strength and fulness. His

mouth is swollen, lips ulcerated, gums very tender; and, on being questioned particularly as to the first appearance of these symptoms, he makes a very interesting disclosure, which is, that his mouth became sore, and saliva increased, on the 26th ult., after he had taken, in small doses, eighteen grains of common mercurial pill, in order to promote the cure of the ulcers, on account of which he came into hospital; that, some days afterwards, he was on the point of communicating this circumstance to his medical attendant, when that gentleman's attention was directed to another object by the inspector of hospitals, who just then happened to enter the ward; and that he did not again think it worthy of notice. He adds, that the ptyalism entirely ceased, on the day immediately preceding the attack of cholera, and recommenced only at two o'clock this afternoon.

Let him have an enema of tincture of rhubarb and salts, and, unless it previously produce its full effects, another an hour hence.

December 7, half-past 7 A. M.—Neither of the enemas having brought any thing away, an ounce of castor oil was given at ten o'clock, and followed by a very copious liquid blackish-brown stool, which deposited a dark-greenish sediment; no evacuation since, but a good deal of tenesmus; complains of slight griping, and of the soreness of his mouth, which is more swollen than yesterday, without any great increase of saliva; pulse 80, full and strong; tongue rather foul; no appetite; thirst.

Repeat the castor oil, and let him use an alum gargle. At midday an enema of ten grains of aloes, and four ounces of rice-water. A pint of milk; half a pound of bread.

10 P. M.—Another ounce of castor oil.

December 8.—His bowels were not again open till early this morning, when he had a tolerably copious offensive stool, of a lighter colour than yesterday's. Mouth a good deal more swollen; tongue and teeth very foul; gums bleed; little ptyalism; pulse 72.

An ounce of Epsom salts.

9.—Four stools since yesterday morning, copious, fœtid, and of a dark brown colour, intermixed with green streaks; mouth considerably better; pulse 80.

Six drachms of salts; two gills of Madeira; continue the bread and milk.

10.—Two or three evacuations before two P. M. yesterday, but none since. At twelve last night, he was attacked with pain in the præcordia, tormina, and tenesmus; tongue cleaner; gums still bleed; pulse 72, and weaker; anorexia; no thirst.

A warm bath. Of infusion of calumbo 8 ounces, tincture of senna 1 ounce, let him take a spoonful thrice a-day; and, if it do not act on his bowels, give him an ounce of salts.

Evening.—Two or three loose fœtid stools since he took the salts; has now no pain of any consequence; pulse 72, tolerably strong.

11.—Gums continue to bleed very profusely; no pain of abdomen; pulse 82; two or three dark-brown stools during the night.

Let the strength of the alum gargle be doubled.

Mid-day.—A blister to the nape of the neck.

12.—Blister rose well; gums somewhat better; pulse 78; three stools.

Continue the gargle.

14.—His lips are still ulcerated, but his gums have ceased to bleed; tongue covered with a blackish fur; very little thirst; pulse 88, rather weak; only one scanty stool yesterday; much tenesmus during the night.

Half an ounce of salts, and, unless it shall have operated, another at mid-day. To his extras add two ounces of sago.

Evening.—He is a great deal worse; pulse considerably weaker than in the morning, and hands covered with a profuse cold sweat, which is more sparingly spread over the rest of the body; could not take his sago, from the pain it occasioned in his throat; gums have bled some to-day; six or seven brown coloured stools, though the salts were not repeated.

A glass of Madeira every two hours.

15.—Died at one o'clock this morning.

For the dissection, see Table of Morbid Appearances, No. 5, next page.

From this case, it may be fairly inferred, in the first place, that the impregnation of the system with mercury is totally useless as a prophylactic measure against cholera, that being the condition of the patient when attacked; secondly, that the mercurial influence is suspended, during the continuance of the disease; and, lastly, that in the cases of dysentery, reported in Dr Johnson's work on Tropical Climates, in which 12, 15, and even 18 scruples of calomel, exerted no deleterious effects on the patient, a considerable quantity of it was probably passed by stool.

In the following table are mentioned, along with the patient's name, such medicinal articles employed, as may be conjectured to have influenced in any way the appearances on dissection. With regard to the second column, the first cyphers denote the patient's age, the next, his years east of the Cape, the third, hours in hospital, and the last, hours which elapsed betwixt his death and the inspection of his body. Plummer (No. 3) was only seen after death; he was well enough, on the 1st December, to march to an outpost 15 miles distant, but at nine in the evening, was attacked with the usual symptoms of Cholera, brought to town in a canoe next day, and died just before entering the harbour, at 1 P. M.

TABLE of Morbid Appearances.

Name, &c.		Cranium.	Spinal Canal.	Heart.	Stomach.	Intestines and Gall-Bladder.	Miscellaneous.
1. Phillips. Laudanum, 4 dr. several spirituous enemas; spirits internally.	24 4 12 4	Natural.	Not examined.	Natural.	Filled with congee-water and spirits.	Intestines contained a fluid closely resembling purulent matter,—no bile; in the ilium a lumbricus; inner coat of large intestines blackish; gall-duct perforate throughout.	
2. Gregory. Opium, 2 gr.; spirits, 8 oz.; spirituous enemas	35 35 12 3 ,	Serous fluid under the dura mater, and ½ oz. in base of brain; 1 oz. in lateral ventricles; brain rather soft.	3 dr. of serous fluid under the dura-mater.	Natural.	Filled with the fluid drunk before death. Many dark spots on its inner surface.	A substance resembling shoemaker's paste, and imbedding a worm in small intestines; coats thickened, another worm in large intestines; rectum distended with fluid, and contracted like an hour glass; no bile in any part of intestines. Ductus choledochus distended with bile and perforate. Sigmoid flexure of colon on right side.	Left kidney considerably smaller, and ureter considerably larger than the right; where the duct enters the pelvis, its coats, for about an inch, greatly thickened, indurated, and itself contracted, but perforate.
3. Plummer.	42 10 4	Not examined.	Veins of pia mater distended with blood.	Natural.		Small intestines not thickened, but containing a fluid similar to that mentioned in the last case, and 8 worms. No bile.	

		blood; ¼ dr. of serum in ventricles; 2 dr. on base of cranium.	sels of pia mater distended with arterial blood.	and musculi pectinati, otherwise all the cavities empty.		intestines, which contained 9 lumbrici, and a white fluid like pus in the upper part, of more consistence and greyish colour in the lower. No bile.	
5. Reed. Opium, 5 gr.; calomel, 16 scr.; spirituous cathartic enemas.	42 15 11 days 11	Serous fluid under dura mater, and 3 dr. in the ventricles.	Serum under the dura mater and in one part between the layers of the pia mater, of which the veins were turgid.	Natural.	Speckled surfaces darker than usual.	Lower portion of ilium of a blue colour externally, of a dark red internally. Internal surface of large intestines of the same colour. Bile mixed with their contents in their whole course. Intus-susception of ilium.	Mesenteric glands enlarged.
6. Reece. Opium about 4 gr.; calomel, 9 scr.; Madeira, 1½ bottle.	32 9 51 12	A little more than 1 dr. of serum in the ventricles.	Veins of pia mater nearly empty.	Blood intermixed with bubbles of air.	Lined with a thick blackish coloured mucus, interspersed with greyish portions.—Wanted its usual speckled appearance, and contained a pint and a half of a blackish fluid.	Colon and duodenum tinged deeply with bile, and communicating their colour to the hands. Duodenum contained a bilious fluid. Small intestines loaded with venous blood, and veins of mesentery large. Ilium contained a worm in the usual fluid, and was thickened in its coats. Ascending colon filled with an offensive liquid, resembling in colour mercurial ointment.	

Name, &c.		Cranium.	Spinal Canal.	Heart.	Stomach.	Intestines and Gall-Bladder.	Miscellaneous.
7. Brook bank. Opium, quantity uncertain; calomel, 12½ scr.	47 15 11 days 11	Serum under dura mater, and between pia mater and tunica arachnoides; 2 dr. in ventricles.	Serum under dura mater, 3 dr.	Natural.	Internally of a dull green colour, with a few dark red specks.	Small intestines greenish blue externally, and containing a dark olive green fluid in their upper part; it gradually became thicker, and of a deeper colour, so as to resemble tar at the lower part of ilium. Large intestines contained a dark brown fluid. Gall-bladder divided into 2 bags, containing a puriform fluid.	Left lung adhered closely throughout to the contiguous parts.
8. Marks. Opium, quantity uncertain; calomel, 10 scr. (much of it vomited;) Madeira, 1½ bottle, (greater part vomited.)	37 10 18 7	Serum under the dura mater; in the ventricles, 1½ dr.	Serum under dura mater about 2 dr. In some places of pia mater blood unusually florid.	Blood, but no coagulum in all its cavities.	Contained a blackish green fluid; a black mucus interspersed with white flakes, and a pill hardly at all dissolved. Lined in many places with the same kind of mucus, and a few venous coloured spots.	Small intestines transversely streaked with rather large veins. Duodenum, and part of jejunum, filled with a yellow chyme; the greater part of the ilium with a white paste and a worm; more vascular where this insect was than elsewhere. Gall-bladder grass-green.	Omentum contained little fat, and was of a light red colour. Mesenteric glands enlarged.
9. Purvett. Laudanum, 1 dr. calomel, 3 or 4 scr.; spirituous enema; some Madeira.	35 11 18 9	Serum under the dura mater; in ventricles, 2 dr.	Serum under the dura mater about ½ oz.	Flaccid and left ventricle thinner than usual.	Many black and greyish black elevated lines, running in the direction of its rugæ. In a few places its natural speckled appearance, but unusually dark.	Small intestines red, from blood in the minute arteries. Duodenum and jejunum filled with an olive green fluid; nothing of this kind in the ilium, the lower portion of which contained a substance like albumen, changing to a rosate hue in descending to	Omentum adhered to the peritonæum, about 4 inches on the right side. An additional spleen, the size of a small filbert.

...rum, a considerable quantity.	8	ventricles, 2 dr.			and, in many places, lined with a brownish grey thick mucus, contained ½ pint of a thick fluid, largely intermixed with this mucous, and of a spirituous odour.	...intestines lined with that kind of paste frequently found in the small. Gall-bladder flaccid.	...throughout, and right in several places. Liver adhered loosely by several membranous threads to the neighbouring parts.
11. Blacklock. Laudanum, ½ dr.; calomel, 2 or 3 scr.	38 8 9 6	Serum under dura and pia mater; in ventri. 2 dr.; veins of dura and pia mater ter very turgid.	Veins of pia mater very turgid.	A serrated bony ridge ¼ inch in length, between left appendicle of auricle and the ostium ventriculi.	Internal surface thickly beset with small venous coloured spots, running chiefly in the direction of its rugæ, contained a thick greyish and dark reddish fluid.	Ilium had a very slight blush diffused over it, and the commencement of the colon unusually dark. In duodenum and jejunum 4 worms, the former contained a light yellow liquid, but there was no trace of bile in any other part of the canal. Gall-bladder half full of bile.	Mesenteric glands slightly enlarged. Left lung adhered in one part by long threads, right universally, and closely to the chest. In place of left testicle, a rough ovate osseous substance.
12. Hill. Laudanum, ½ dr.; (vomited;) calomel uncertain; spirits.	28 4 7 14	Veins of dura and pia mater very turgid; serum in ventricles, two-thirds of a dr.	Veins of pia mater very turgid.	In pericardium, 2 dr. of pale reddish fluid; heart very flaccid, and right as well as left ventricle empty. Blood in right auricle intermixed with bubbles of air.	A black thin fluid with large portions of calomel. Stripes of a black venous colour in the direction of its rugæ.	Small intestines of a reddish white colour, excepting the lower portion of the ilium, which was livid. In duodenum, a thin olive green fluid, interspersed with portions of a mucous consistence; no trace of bile in any other part. Upper part of ilium contained 6 lumbrici; lower portion, a reddish mucus. Large intestines a brownish grey fluid.	

Name, &c.		Cranium.	Spinal Canal.	Heart.	Stomach.	Intestines and Gall-Bladder.	Miscellaneous.
13. Knokes. Opium, 2 grs.; calomel, 48 grs.; spirituous cathartic enemas.	37 13 12 14	Serum between pia mater and tunica arachnoides; in ventricles, 2 dr. and basis cranii 1 oz.; brain softer, and dura mater more vascular than usual.	More than two ounces of serum under dura mater.		Viscid mucus adhering very closely to itself a whitish matter of a pappy consistence, and the large intestines a quantity of glairy fluid. No bile in the intestines. Intus-susception in the ilium.		

The following recapitulation of the m
appearances will save you some trouble
supply one or two deficiencies in the tab
In one case, the brain was mangled b
officious orderly, during a momentary
sence of the operator; and in another,
peared natural; but in all the rest, there
serous effusion into the ventricles; an
the greater number, likewise between
membranes and on the base of the
nium; when between the membranes, b
these were divided, it resembled a tra
rent jelly.

In exactly one half of the cases, there
effusion under the dura mater of the s
cord. The veins of its pia mater gene
appeared very turgid, but, having very
ly begun to examine the spine on dissec
I was doubtful whether to consider th
natural or a morbid appearance, and se
noted it down. In one case, the blood
tained in these vessels was of an ar
colour, resembling a coarse injection
another it was partly venous and partl
terial.

The circulating system presented, in
neral, no deviation from the usual ap
ances; none of that congestion in the lu
or any of the viscera, which others
found, and which seemed to offer so pl
ble an explanation of the most remark
symptoms attending the disease. In
case, all the cavities of the heart were e
ty; and in three, the interstices betwix
columnæ carneæ and musculi pectinati f
with a frothy blood. In two cases, the h
appeared unusually flaccid; and, in on
them, the parietes of its left ventricle
usually thin. Once the pericardium con
ed two drachms of a pale reddish fluid.

The abdominal viscera seldom prese
any thing unusual externally; yet in
case, there was scattered over them gelati
semi-transparent flakes, and the abdo
contained half a pint of serum. The s
intestines exhibited in four cases a very

arterial blush, and, in the one where this appearance was most distinct, the omentum adhered to the peritonæum for some inches on the right side. In several cases, the large intestines and the mesentery were loaded with venous blood, and in two the lower portion of the ilium, and the large intestines, were blue, or greenish blue externally, and dark red internally.

The speckles, natural to the mucous coat of the stomach, were sometimes merely paler than usual, or of a dark venous hue; in other cases, instead of a minutely speckled surface, there were large black or greyish black patches, at one time distinct, at another coalescing into ridges upon the rugæ of the stomach, and apparently arising from effused blood. Where mercury had been taken in great quantity, these patches were few in number, or rather obscured by a black or dull green thick ropy mucus, which lined the stomach, and was interspersed with greyish portions; in such cases, the stomach contained a considerable quantity of a similar substance, in a more liquid form; in one case it contained a thick grey and dark reddish coloured mucus.

The small intestines were generally thickened, and lined with a substance resembling in colour and consistence shoemaker's paste. In eight of the cases examined, the lumbricus teres was found imbedded in this substance, sometimes to the number of eight or nine; and one patient, in whom none were found on dissection, had vomited them before death.*

The large intestines were either contracted and empty, or filled with a greyish white puriform, sometimes fœtid, or dark brown fluid. In one case, the rectum resembled an hour glass, being distended with fluid, and contracted in the middle.

In three or four instances the gall-bladder was flaccid; in general, it was distended beyond the margin of the liver, with blackish green thick bile. It was, in one subject, whitish, translucent, and about an inch from its fundus, divided by a narrow neck into two bags, both which were filled with a thin white fluid, intermixed with purulent looking flakes; the cystic duct appeared at first imperforate, but with a very little force the probe could be passed to the duodenum. The gall-bladder communicated freely with that gut, in every other case.

In the patient, who had complained of inability to void

* My friend Mr Gillespie, one of the surgeons to the civil hospital, informs me that he has seldom had occasion to open a Black subject, without finding worms in the intestines. Whether they may equally infest European adults, in this island, I have yet had few opportunities to determine. They are here, as every where else, very common in children.

urine, the bladder was contracted and empty, as it almost always is after death.

Several other morbid appearances have been included in the table; but need not again be noticed, as they could have no possible connection with the disease. I shall only remark that No. 2 affords the second example of the sigmoid flexure of the colon on the right side which I have met with in dissection, and that this malposition is not mentioned by any of the writers on morbid anatomy, whom I have lately had an opportunity of consulting.

It will not be necessary to bestow on the less severe affections the same attention which has just been paid to the violent form of the disease; they will be better explained by examples than by any general description. It is right, however, to premise that a very arbitrary classification has been adopted. The principal symptoms, of which different patients complained, were headache, vertigo, general debility, tormina or fixed pain in the abdomen, cramps, diarrhœa, thirst, and vomiting. When the greater number of these were present, in the same individual, the affection was termed *cholera mitior*; when vomiting existed without diarrhœa, or the contrary, the predominant system gave a name to the disease; and, when any difficulty arose, in referring a set of symptoms to one of these three heads, they were regarded as anomalous.

The following is an example of cholera mitior.

Daniel Day, aged 35, east of the Cape 13 years.

December 11, half-past 6 P. M.—Yesterday he ate little dinner, experienced a degree of faintness, and, about three o'clock in the afternoon, while on guard, was attacked with diarrhœa and tormina. The tormina ceased at ten this morning, but, about an hour before, he had been seized with slight headache, giddiness, nausea, and vomiting of whatever he drank. At eleven, a profuse warm perspiration broke out over his body, dried up in a quarter of an hour, and was succeeded by coldness of the surface and by cramps, commencing in the toes, affecting afterwards the calves of the legs and thighs. They attacked once or twice his fingers, much oftener his left than right leg, and ceased between two and three this afternoon. He has refrained from drinking, and vomited none since the same hour. He has voided to-day nine liquid yellowish stools; pulse 94, of moderate strength; tongue rather white, but not furred; vertigo diminished; thirst still urgent.

A scruple of calomel now, and an ounce of Epsom salts in three hours.

12.—Six stools during the night and two this morning; at midnight was attacked with nausea and vomiting of a bitter fluid; head-

ache considerably increased; tongue foul posteriorly; thirst continues; no return of cramps.

Of salts, two ounces; infusion of senna, six ounces; let him take an ounce thrice a day.

Evening.—Six stools, of a dark brown colour; very little headache; no return of vomiting or cramps.

13.—Giddiness and anorexia are his only remaining complaints; five or six stools in the night.

Intermit medicine.

14.—Eight evacuations since yesterday morning; appetite returns; tongue clean. Fifteen grains of rhubarb.

15.—Only two stools.

17.—Discharged from hospital.

In this, and the greater number of cases, diarrhœa was one of the chief symptoms, but in that which follows, and in one or two more, which could not well be referred to any other head, the bowels appear to have been rather confined than loose.

Charles Naven, aged 28, east of the Cape 14 years.

December 6, 8 A. M.—Between four and five o'clock this morning, he was attacked with nausea, vomiting, severe pain of abdomen, and pain of thighs. The last mentioned symptom does not arise from cramps, but is constant, and compared, by the patient, to the feeling produced by a sound beating with a stick. At the moment of drawing this comparison, he cries out, "There are the cramps now," and the calf of the left leg is observed to be the part affected. The pain of abdomen is increased on pressure; pulse 102, full and strong; extremities moist, and moderately warm; slight headache; urgent thirst. Took a single glass of spirits, besides his allowance, yesterday; bowels were twice open, but this morning not once.

A scruple of calomel to be given, and repeated every time it is vomited. The warm bath, and, an hour afterwards, an enema of salts and senna.

Evening.—On coming out of the bath, he was well wrapped up in triple blankets, and has been in a state of profuse perspiration ever since. The enema did not operate till 3 P. M., at which time it brought away a very copious yellow coloured offensive stool; this carried off entirely the pain of abdomen, and was succeeded by a sleep of an hour and a quarter. Five scruples of calomel were given, but how much of it rejected is uncertain. No vomiting since one o'clock; thirst much diminished; tongue nearly quite clean; pulse only 68, of good strength; extremities of natural heat; soreness of thighs better; headache remains considerable; slight cramps once or twice during the day.

Intermit calomel. An ounce of salts early in the morning.

7.—He vomited the salts about half an hour ago, and the fluid is tinged with bile; his headache, which had become trifling, has since

been more severe; pain of thighs almost gone: no cramps; a good deal of thirst; perspires very copiously; pulse 94.

An enema of salts and senna.

8.—Seven stools yesterday; none to-day; debility is his only complaint.

Intermit medicine.

11.—No stool since the night before last.

An ounce of salts.

12.—Five stools.

14.—Discharged.

In Diarrhœa, the evacuations were sometimes merely increased in number, and preceded by tormina, but, most frequently, they were attended by anorexia, nausea, thirst, headache, vertigo, pain, and weakness of back or loins, and other marks of general debility. The subjoined case is a very poor example, but given in illustration of the popular notions of the prophylaxis in cholera.

Corporal William Gibbon, aged 29, east of the Cape 4 years.

December 15, evening.—On the 12th instant, he was seized with headache, nausea, flatulent discharge from the stomach, and diarrhœa. Dreading an attack of cholera morbus, he was advised to sacrifice liberally to Bacchus; and this counsel he has not failed most religiously to observe; yet, it is a little singular, and perhaps illustrates the effects of fear on the nervous system, that he could never make himself intoxicated, though he has drunk to the extent of a bottle and a half of spirits in one day. The patient is at no loss for an explanation of this curious fact, saying, that the liquor was carried off by perspiration, as fast as he poured it in. He vomited this morning, and had three stools in the afternoon; tongue clean; some thirst; no pain of abdomen; pulse 88, full and strong.

Ten grains of calomel immediately; an ounce of salts to-morrow morning.

16.—Seven copious offensive evacuations: he complains only of headache and thirst, but has had gonorrhœa for nearly a month.

Transferred to the surgical ward.

As a contrast to the above, though not strictly connected with the subject, the following case of delirium, produced by swallowing a quart of gin, may be here introduced:

Thomas Moore, aged 33, east of the Cape 4 years.

December 3, half-past 5 P. M.—His pupils are dilated, and the iris contracts very sluggishly and imperfectly; conjunctivæ slightly vascular, as if from weeping; yet there is a constant smirk on his countenance, and, to every question that is asked, he smiles and replies, there is nothing the matter with him. He wishes to quit the hospital, and has more than once struggled to escape from his attendants; he frequently applies his hand to the præcordia, but denies

he has any pain there; pulse 88, not strong; tongue clean; extremities warm. If he can be depended on, he has had three stools today, the first about one o'clock; soon after which, he was attacked with vomiting and vertigo; fell back on a form insensible; and was brought to hospital.

Of salts, two ounces; infusion of senna, six ounces; let him take an ounce every hour until they operate.

4.—He vomited about ten o'clock last night, and has since been freely purged; evacuations of a dark colour; pupils of natural size; vascularity of conjunctivæ gone; has tremors of the limbs and of the tongue, when protruded.

Intermit medicine.

5.—Five or six stools; tongue not quite clean; tremors of hands not so severe as to prevent the pulse being counted, which was the case yesterday; pulse 80.

6.—Tremors quite gone.

Discharged.

The cases of vomiting were generally accompanied with headache, constipation, and violent pain of abdomen. I subjoin a severe example:

Samuel Burgh, aged 28, subject to epileptic fits, east of the Cape four and a half years.

December 4, half-past 5 P. M.—A little before three o'clock he was seen, in barracks, retching most violently, and complaining of excruciating pain in the abdomen and thighs, and of headache. Nothing more could be learnt from him, than that he had been suddenly attacked, and that his bowels were confined. Pulse full and frequent. A scruple of calomel given was almost immediately rejected. Half an hour afterwards, on being brought to hospital, he took the same quantity of calomel, and had an enema of salts and senna. He has retched much, but vomited none since; and the enema came away without any feculent matter. For some time he lay quiet, disregarding external objects; but just now, he starts up in violent convulsions, laying his hand on his abdomen, and bellowing with pain; pulse 134, full and strong; pupils dilated.

Venesection.

Half-past 6 P. M.—Forty-eight ounces of blood were taken, with no decided relief to the pain of abdomen; but he now answers questions; retching continues; pulse still full and frequent, not quite so strong; tongue clean and moist; great thirst. The first cupful of blood is very buffy.

A warm bath, and, should the retching continue, a blister to the epigastrium. Of infusion of senna six ounces, Epsom salts two ounces, let him have an ounce every hour till they operate.

5.—He obstinately refused to take more than one dose of the cathartic solution; vomited about twelve o'clock; and has had a large stool during the night; slept little, but has lain very

quiet; still complains of pain in the feet, legs, and abdomen; to the last of which a blister has been applied; pulse 72, full and strong.

Let him be forced, if he again refuses, to take the medicine ordered yesterday.

6.—Five stools, the last of them brown, and not fœtid; has weakness in the knees and thirst only; tongue clean; pulse 76.

Intermit medicine.

7.—Three scanty stools yesterday. Took an ounce of salts this morning, which has not yet begun to operate; has slight pain of left leg, and weakness of both.

8.—Three stools; tongue foul; no pain, but weakness of leg.

9.—Two stools yesterday; appetite good.

11.—Discharged.

The following are a few specimens of what have been designated in the table *signa anomala*.

Mrs Hannah Seed, aged 36, a very corpulent laundress, east of the Cape 5 years.

December 3, 1 P. M.—Breakfasted with a good appetite; but, about an hour ago, remarked to her husband, that she felt much indisposed, and, a moment after uttering a loud shriek, drew her knees rapidly towards her abdomen, and performed other apparently convulsive movements. She continued to scream and to struggle until brought to hospital. Her face is flushed; her eyes wild; she points to the abdomen, as the seat of her sufferings, and can bear pressure on no part of it; pulse 116, full and strong; extremities warm; bowels not opened since yesterday; this instant vomits, for the first time, a colourless fluid; tongue foul. Unwell a week ago.

Venesection; warm bath; 10 grains of calomel.

Half-past 1.—The arm was tied up, after 32 ounces of blood had been drawn, as the pulse became weak, and the upper extremities covered with a cold perspiration; she lies, for a few minutes, with her eyes shut, then raises the eye-lids, rolls her head on the pillow, passes her hand rapidly across the epigastrium, exclaiming, "Oh, my belly!" and again sinks into a temporary stupor; at the end of which the same gestures are repeated. One moment she talks rationally to her husband, and, the very next, desires a bye-stander, in his presence, to go seek him in the barracks. She complains of headache, and says she was attacked yesterday week with pain, and a sense of weight in the stomach, which lasted four days: acknowledges that she took a glass of rum in her tea this morning; pulse 94, and tolerably strong. The bath is ready.

5 P. M.—She was kept ten minutes in the bath, and perspired copiously on quitting it; has since alternately dozed for a few minutes, and tossed about in bed, complaining of pain in the abdomen; but this she describes as less severe than previous to the use of the bath; has frequently vomited a thin yellow fluid; tongue still co-

vered with a brown fur; no alvine discharge since admission; pulse 100, of good strength.

Let her take ten grains of calomel, and have an ounce of salts, by enema, every two hours, till they operate,

4, Mid-day.—One enema only was required, and she has had a considerable number of dark feculent stools. Slept towards morning; complains very little of her head or stomach; has vomited once to-day, pulse 88; tongue a good deal cleaner.

Five grains of calomel.

8 P. M.—She has rejected every thing taken since last report; yet the tongue is perfectly clean, abdomen free from pain, and præcordia sore, only from the straining to vomit; thirst diminished; pulse 80; two scanty stools.

An enema of salts, and senna immediately.

5.—No return of vomiting; bowels were open before 11 P. M., not since; complains only of debility and anorexia.

Intermit medicine.

6.—Her bowels continuing confined, an ounce of salts was given early this morning, and she has had several copious feculent stools.

9. Discharged.

William Staples, aged 28, a strong muscular man, who never knew sickness, east of the Cape 5 years.

December 4, 6 P. M.—Went to bed yesterday in perfect health; but had occasion to rise twice in the night, a thing quite unusual with him. He could not breakfast this morning, but swallowed instead a glass of arrack, which, as well as a dose of salts, taken soon after, was instantly vomited. At half-past nine, he was attacked with headache, vertigo, pain, and loss of power in the limbs, nausea, and pain of abdomen. A medical gentleman saw him at eleven o'clock, took 50 ounces of blood from his arm, and ordered him a draught, consisting of three grains of emetic tartar, and an ounce of Epsom salts. He vomited it as soon as taken, but has not vomited since. He was much relieved by the bleeding; but his abdomen is still tender; headache, vertigo, and nausea continue; thirst urgent; pulse 112, and full; tongue foul; two copious watery stools since admission.

Ten grains of calomel now, and an ounce of salts in half an hour; if he vomits them, let an enema of salts and senna be exhibited.

5.—Retained the medicines, and had two copious offensive stools; slept well; no headache: pulse 130, of moderate strength; tongue tolerably clean; thirst continues; pain of abdomen not quite gone.

Half an ounce of Epsom salts, and two ounces of infusion of senna.

6.—One stool only; pulse 106; tongue foul; no pain of abdomen, or other complaint.

Ten grains of calomel now, and an ounce of salts at mid-day.

7.—Two stools yesterday; tongue cleaner; pulse 86; debility.

Intermit medicine.

9.—Discharged.

James Wynne, aged 31, east of the Cape 11 years.

December 4, half-past 6 P.M.—Went out as orderly at one o'clock, carrying dinner to the soldiers on the Main and *L'église* guards; in his way home, he met a comrade, and told him, he could walk no farther, from pain and weakness, commencing in the feet, and gradually ascending to the trunk; he felt nausea and general uneasiness, but recollects nothing more till he found himself in hospital. He sat down on a form to describe his complaints, and, on getting thus far, fainted. On recovering, he complains of pain and weakness in the large joints, and of pain in the occiput; retches frequently, and rejects a small portion of mucus; bowels not open to-day; he had two motions yesterday, and, though he did not attend to their appearance, believes them to have been natural.

Ten grains of calomel now, half an ounce of salts, and two ounces of infusion of senna in an hour; if he vomit these, let him have an enema of salts and senna, and a blister to the epigastrium.

5.—Did not reject the medicines; two liquid, not very copious stools; tongue foul; pulse 72, of moderate strength; thirst and pain in the occiput and abdomen, none of them very severe.

Of infusion of senna six ounces, sulphate of magnesia one ounce, let him take an ounce every hour until it produce its full effects.

6.—Seven or eight stools yesterday, of a whitish colour; tongue still foul; pulse only 56, of good strength; headache remains.

Ten grains of calomel; a blister to the nape of the neck.

7.—At six last evening he complained of pain in the abdomen, had had only two scanty stools during the day; an enema of salts and senna was exhibited; he has since had two copious stools, and complains now neither of head nor abdomen; pulse 74; some appetite.

Intermit medicine.

13.—Discharged.

Richard Williams, aged 45, east of the Cape 14 years.

December 13.—His present employment is to superintend the cutting of drains by government slaves; and, in going to the place where he performs this duty, about an hour ago, he was attacked with pain, and so great weakness of the back, loins, and extremities, that he was only prevented from falling to the ground by a passenger, who caught him in his arms. He now complains of severe headache and numbness, confined to the left side and left extremities; he can readily move the parts affected, but halts and totters in his gait; thirst; foul tongue; no nausea; one natural coloured stool this morning.

Venesection; an ounce of salts and two ounces of infusion of senna.

Evening.—Thirty-two ounces of blood were taken, and he felt immediate relief to the headache and affected side; still the first continues considerable, and he has slight numbness of the left extremities; pulse 104; five or six copious stools.

Repeat the salts early to-morrow morning.

14.—Salts have operated three times. He has, it seems, been subject to tremors of the hands for two or three years; headache is his only other complaint.

15.—Headache gone; debility.

28.—Discharged.

RICHARD JAMES, aged 24, east of the Cape 4 years.

December 26, half-past 1 P. M.—At morning parade he was seized with great numbness of the limbs, and a slightly painful sensation like the pricking of needles, which commenced in the toes and fingers, ran up the extremities and trunk, and, on reaching the forehead, terminated with a flash of fire from the eyes. He was obliged to support himself on his comrade, and, immediately after parade, (7 A. M.), passed a very loose stool. For about an hour he had great vertigo and headache, the last remaining until he was brought to hospital. At 11 o'clock, he was attacked with nausea, retching, and pain of præcordia; and at 12, with a troublesome, but not very frequent cough. Just now, he begins to complain of violent pain about the umbilicus; tongue clean; thirst urgent; pulse 132, of moderate strength; skin dry.

Venesection; ten grains of calomel now, and an ounce of salts at 5 o'clock.

7 P. M.—Thirty-two ounces of blood were taken, without the slightest relief to the symptoms. Half an hour after taking the salts, he had a copious stool and began to vomit; he vomited thrice a large quantity of a green bitter fluid, and has since been a great deal better; pain of abdomen comparatively slight; cough less frequent and less severe; pulse 132; tongue clean and moist; thirst urgent; numbness, without pricking, of hands and fingers.

Acidulated rice water for drink; six drachms of salts early to-morrow morning.

Vertigo, slight pain of abdomen, and general debility, continued a few days longer; the cathartics were repeated; and he was discharged well on the 2d January.

In the fatal form of the disease, the chief remedies employed were blood-letting, the warm bath, spirituous and dry frictions, rubefacients, the internal exhibition of spirits, opium, calomel, Epsom salts, and other purgatives. The extraordinary success of Mr Sheppard, in treating a similar disease by blood-letting to syncope, as reported in Dr Johnson's work on tropical climates, induced me to practise it on the two first patients attacked; but from neither of them, though veins were opened in each arm, could more than twelve ounces of uncommonly dark blood be obtained. Mr Markham tried it with no better success in two other cases. It was also tried, as we have seen, in some of the less violent affections; and, the impression produced on me by the whole is, that when only a few ounces can

given at length: we have seen that it seldom produced any decided relief until the bowels had been freely opened; and I am inclined to think, it might always have been very safely dispensed with. When considerable debility and anorexia survived all the other symptoms, the patient used to be brought round, in a few days, by one of the bitter infusions, mixed with a small proportion of the compound tincture of bark.

The length to which this communication has insensibly extended will deter me, for the present, from entering into any speculation regarding the exciting causes of the disease; but I cannot withhold the following summary of facts, connected with its origin and progress.

1*st*, On the 5th September 1819, a soldier was sent from the main guard to hospital, affected with great thirst, constant vomiting, violent cramps in all his limbs, coldness and lividity of the legs and hands, a small pulse, and confined bowels. (Mr Markham's diary.)

2*d*, On the 6th September, a black, under the care of a French surgeon, died with all the characteristic symptoms of the epidemic.

3*d*, On the 29th October, the Topaze, a 46 gun frigate, anchored in this harbour, from Ceylon, after a very unhealthy voyage, during which several men had died of cholera morbus. The following day, she sent thirty cases of chronic dysentery, hepatitis, and general debility, to the hospital of the 56th regiment.*

4*th*, On the 18th November, cholera first appeared, in its most severe form, among the African slaves and Indian convicts; several of whom were that day admitted into the civil hospital.

5*th*, A few days afterwards, a European sailor, under treatment, I believe, for ascites, in the same hospital, fell a victim to the reigning disease.

6*th*, On the 29th November, the first fatal case occurred in the 56th regiment.

7*th*, Though the disease originally broke out in Port Louis, it afterwards visited the principal outposts and habitations in the island; and, soon after running its course here, appeared at Bourbon, in defiance of a most rigorous quarantine.

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* I have the surgeon of the frigate's authority, as well as personal observation, in stating that not one of those patients laboured under symptoms of cholera at the time of disembarkation; but it should not be concealed, that a medical officer, who had gone on board the same forenoon, saw one man affected with severe vomiting and spasms.

8th, A considerable number of sailors, belonging to merchant vessels lying near the shore, died of cholera; whereas, not a soul belonging to the Topaze, which lay about a mile and a half from shore, but communicated constantly with it, was attacked after her arrival.

9th, With the exception of Reed, (p. 7,) no patient or hospital attendant was attacked at head quarters; this I understand was far from being the case at an outpost seven miles from town.

Lastly, No children, and a very small proportion of females, were attacked; but convulsive affections, resembling hysteria, were unusually frequent among the European and Mulatto women belonging to the regiment.

I have the honour to be, SIR,

Your most obedient, humble servant,

JOHN KINNIS, M. D.

Port Louis, 31*st March* 1820.

II.

OUTLINE OF AN INQUIRY ON THE PATHOLOGY OF CONSUMPTIVE DISEASES.

By JOHN ABERCROMBIE, M. D.

PART I.

DEATH from consumption in the British Islands has been estimated, on the most moderate computation, at one-fifth of the whole mortality, and there is much reason to fear that the evil is increasing. * The subject, therefore, is one of intense interest; and it seems most desirable that every effort should be made to enlarge our acquaintance with the pathology of the disease, in the hope that something may be done to diminish in some degree this frightful mortality.

The history of consumption presents a melancholy picture of the uncertainty of medical observation. While the extensive

* In great cities, the proportion is higher. In London, it has been generally reckoned about a fourth, and sometimes nearly as high as a third.

mortality excited the eager attention of physicians in every age, a great variety of remedies, and various modes of treatment, were from time to time proposed. The most flattering testimonials were given of their efficacy, and numerous cases were detailed, which, after having exhibited all the usual symptoms of consumption, terminated favourably. Yet each of these remedies, after enjoying an ephemeral reputation, has either forfeited the public confidence, or sunk entirely into oblivion. A slight review of them is calculated to throw considerable light upon this inquiry. *

The oldest, and perhaps the most extensive, treatment of consumption was upon the Tonic plan. The remedies of this kind that were chiefly relied on were, light and nourishing diet, friction, cold-bath, exercise, sea-voyages, preparations of iron, and various medicines of an astringent or stimulating kind, such as guaiacum, seneka, the balsams, and the vegetable bitters. Hippocrates seems to have relied chiefly on exercise, in regard to which he directs, that it should be gradually increased to the extent of walking ten or fifteen miles a-day. Aretæus and Celsus advise nearly the same remedies, with very particular directions about diet. Their chief dependence seems to have been on sea-voyages; but Celsus also attaches much importance to walking, friction, and bathing. Galen appears to have relied chiefly on bathing, and his directions are long and very minute, in regard to various modes of using it, adapted to different modifications of the disease, especially to the different states of hectic fever. In one case, general immersion is recommended; in another, cold water applied only to the thorax; in a third, a poultice of herbs, moistened with snow-water; and a fourth method is described with great minuteness, in which warm air is first employed, then warm water, and, lastly, cold water.

In the long period during which the opinions of Galen regulated the medical schools, the same mode of treatment prevailed; and at a more advanced period, when the pathology of the disease came to be better understood, there were added to the general plan remedies of a detergent nature, as they were called, or such as were supposed to cleanse and heal the ulcers of the lungs. Of these the most esteemed were, various preparations of sulphur, balsamic fumigations, myrrh, sarsaparilla, cinchona, preparations of mercury and antimony, balsam of Copaiva, and chalybeate waters. During the period to which this outline refers, various other remedies are mentioned by individual writers, many of them of a superstitious kind, and others altogether

* See the learned and valuable work of Dr Young.

frivolous; but, upon the whole, it appears that the prevailing treatment of consumption was upon the Tonic plan, from the days of Hippocrates to the middle of the seventeenth century; and, about this period, the judicious Sydenham did not hesitate to affirm, that "neither mercury in syphilis, nor bark in intermittents, is more effectual than riding in consumption, provided the patient take care to have his linen well aired, and to continue his journey long enough—the longer as he is the more advanced in life."

About the beginning of the eighteenth century seems to have commenced that revolution in medical opinion on this subject, by which the treatment of consumption was changed from the tonic to the antiphlogistic plan. Traces of it, indeed, are found at an earlier period; but it seems to have been about this time that it was brought into general notice, chiefly by the writings of Stahl and his followers. The remedies employed under this system were those calculated to allay vascular action, as repeated small bleedings, antimonials, and other nauseating medicines, emetics, mineral acids, nitre, cicuta, anodynes, and cool spare diet. Sea-voyages were still in repute, but their efficacy was ascribed to the slight and continued nausea. The tonic remedies and balsams, formerly in use, were now condemned, from a dread of exciting febrile or inflammatory action. The chief promoters of the antiphlogistic plan seem to have been Stahl, Dover, Huxham, and Bryan Robertson; and of writers of a later date, we are to reckon in this class the distinguished names of Pringle, Monro, Van Swieten, and Cullen.

During the period, however, to which these observations refer, there were many physicians of no small note, who retained an attachment to the tonic treatment of consumption. Among these may be reckoned Barry, De Haen, Marryat, and others, —and among those of later date, Salvadori, May, and Rush of Philadelphia. Salvadori treated consumption by violent exercise, with a liberal allowance of salt meat and wine. May considered it as being entirely a scrofulous disease, to be treated like any other scrofulous ulceration, by tonics, and nourishing diet. Rush contends that consumption is a disease of debility, except some cases in which there are inflammatory symptoms, and his remedies are, a great deal of exercise, bathing, bark, and iron. "The hardships of a military life," he says, "have effected cures in many cases of confirmed consumption, and a riding postman has been relieved more than once by a pursuit of his occupation." Frank also was an advocate for the treatment of consumption by tonics and nourishment; but, upon the whole, the antiphlogistic plan seems to have been the more pre-

valent, from the beginning of the last century, till near the end of it, when many of the remedies formerly in use were in a great measure lost sight of in this country, under the growing fame and indiscriminate use of digitalis. In regard to the efficacy of this medicine, there was indeed some difference of opinion among the great number of physicians who employed it, but by some it certainly was considered as nearly a specific, in the incipient stages of consumption; and by one writer it was reported, after a very long trial, to have cured forty cases out of seventy-two, taken indiscriminately at all stages of the disease. It is unnecessary to remark how far this active remedy has lost its reputation in consumptive cases. It may be given occasionally as a palliative, perhaps sometimes as a placebo, but I believe no person in the present day expects it to cure consumption.

On reviewing the mass of observations that have been transmitted to us by the various writers now referred to, we find numerous cases which terminated favourably, after they had exhibited all the usual symptoms of consumption; some of them in circumstances which appeared to be hopeless. Some of these recoveries took place under the most active antiphlogistic treatment; others under the use of tonics and nourishing diet, and not a few with little or no medical treatment, or under the employment of remedies altogether inert and frivolous. From such various and contradictory evidence, on the authority of writers of sound observation and undoubted veracity, what conclusion can be drawn by an unprejudiced inquirer, but that, under the name of consumption, there have been included affections, differing widely from each other, and requiring different, and even opposite modes of treatment;—and that there are disorders which assume many of the symptoms of this alarming disease, while they are in their nature widely different. The inquiry is extensive and most important, and it opens an interesting field of research, in which, though it may appear unpromising, there is certainly the hope of doing something that may ultimately tend to diminish the mortality from chronic affections of the lungs.

By pulmonary consumption, we understand an ulceration of the substance of the lungs of a peculiarly unhealthy character, little, if at all, disposed to heal; and the symptoms which are considered as indicating the presence of it are cough, purulent expectoration, hectic fever, and emaciation. But when we come to investigate the subject minutely, we find reason to believe that there are various affections which present many or all of these symptoms, while they are in their nature remarkably different

consumption; and that they may even be fatal after long racted disease, and yet the substance of the lungs be found ctly healthy. On the other hand, we find the true con- tive ulceration running its course, with considerable va- s in the symptoms, and while some of the ordinary symp- are entirely wanting. The subject, therefore, resolves it- nto two parts:—I. The Diseases which resemble Consump- —II. The true consumptive Ulceration.

PART I.

OF THE DISEASES WHICH RESEMBLE CONSUMPTION.

hen in a young person, about the age when consump- generally appears, and especially in a family which has dy suffered from it, we find cough, with uneasiness in hing, pain referred to some part of the thorax, frequency ulse, and general weakness,—and these symptoms going or some time, so as to assume a chronic form,—we na- ly take the alarm, and dread a tendency to consumption. e symptoms, however, may arise from various other affec- , some of them as untractable as true consumption, but s affording a more favourable prognosis, and frequently re- ng a treatment considerably different. They may be re- d to the following heads:

I. Sympathetic Cough, (so called.)
II. Irritation of the Diaphragm by Diseases of the Liver, Spleen, and other parts contiguous to it.
III. Chronic Inflammation and Ulceration of the Larynx.
V. Chronic Disease of the Mucous Membrane of the Bronchiæ.
V. Chronic Inflammation of the Pleura.
VI. Disease in the Posterior Mediastinum, or the Glands connected with the Lungs.
II. Ulceration of a Healthy Character from Active Inflammation.
III. Hæmoptysis and its Consequences.

SECT. I.—*Of Sympathetic Cough.*

his indefinite term I employ merely for the sake of a name, to include under it certain anomalous cases, in which obsti- cough has been supposed to arise from causes seated in or-

gans at a distance from the lungs. I forbear from speculating upon the connection; some of the facts are curious. Valsalva describes a case in which the only morbid appearances were in the brain. The peculiar symptom was, that every motion of the head produced a paroxysm of cough. A case somewhat similar is described by Lechelius. Lieutaud relates a fatal case of violent cough, with purulent expectoration, in which the only morbid appearances were in the frontal and occipital sinuses, which were full of pus. Sauvages mentions obstinate cough arising from irritation of the auditory passages, especially the Eustachian tube. "I have never," says De Haen, "observed a more severe, obstinate, and untractable cough than that which affected a young woman, and, having resisted every remedy, ceased after the expulsion of a callous substance from the uterus." Worms in the intestines have been considered by many practitioners as a cause of cough. Every one is familiar with the term *nervous cough*. It is, in general, employed to express any chronic cough that is not consumptive; but of these, we shall afterwards find, there is great variety. But there is a nervous or hysterical cough, which we cannot refer to any of these causes. One of the most singular cases that I have seen of this kind occurred in a young lady, stout and plethoric. She was affected with the most violent cough I ever observed, which occurred in paroxysms, and continued for an hour or more at a time, until respiration was nearly suspended, and the attack often terminated in a state bordering on asphyxia. The paroxysms occurred only once in four or five days, and in the intervals she was in perfect health. After resisting various remedies, it was removed by full bleeding from the arm.

Cough is often supposed to arise from the *stomach*. The subject is extremely obscure, but by no means unworthy of attention. * We know, that, in persons liable to asthma, the paroxysm may be induced by indigestion; and there certainly are cases of cough, which, after resisting the usual remedies, yield to treatment directed to the stomach and bowels. A case of this kind, which had attracted much attention, has been communicated to me by a professional friend. It occurred in a gentleman between 50 and 60 years of age, and was a peculiar, loud, noisy cough, which had considerably reduced his strength,

* See the valuable work of Mr Abernethy on the Constitutional Origin of local Diseases; and Dr Wilson Philip on the Dyspeptic Phthisis, in Med.-Chir. Trans. Vol. VII. p. 499.

or a long time resisted every remedy. It disappeared at nder a course of laxatives. The same kind of cough is mly induced in this gentleman by any inattention to diet ich his stomach is disordered, and yields only to the same ent. A man, mentioned by Langelot, was affected with nt dry cough, and, at length, wasting and death. The as considered as decidedly phthisical, but the lungs were perfectly healthy. The only morbid appearance was in omach, which appeared to have been affected with chronic mation. *

young women, especially of the higher ranks, a state is ith which is very apt to excite the alarm of a tendency to mption. The patient is found pale, sallow, listless, and in-, with bad appetite, disturbed sleep, and a small, frequent There is frequently nausea, especially after eating, and ng of oppression or exhaustion across the epigastrium; imes a more fixed uneasiness in one side, about the mar- f the ribs, increased by cough and by full inspiration. e is a short dry cough, and the breathing becomes quick neasy upon any exertion, as going up a stair or an ascent. e is a feeling of coldness sometimes alternating with the s of heat. The bowels are generally costive, sometimes ate; the menses often retained, suppressed, or very scanty; ie affection, I believe, is not necessarily connected with the of menstruation. It is treated successfully by country air, exercise, and a combination of tonics with gentle laxa- I have found nothing more useful than sulphate of iron, ined with aloes, taken three times a-day, in doses of two s of the former with as much aloes as shall keep the bowels pen, without purging. The other preparations of iron, he vegetable bitters, may be used in the same manner. bdomen is sometimes enlarged, and the affection seems connected in a great measure with derangement of the lar action of the intestinal canal, especially the colon. It to be removed by strong purgatives, but by the combina- f gentle laxatives with tonics. Friction of the body is also , with warm clothing, tepid bath, or sponging with vine- nd water, at first tepid, afterwards cold.

ere is also met with, especially in young females, a fixed in the side, about the margin of the ribs, often in- d by inspiration, sometimes accompanied by cough, and ionally by considerable oppression in breathing, occur- in paroxysms, not unfrequently with hysterical symp-

* Miscell. Curiosa. An. 1675. Obs. 14.

toms. It is in many cases extremely obstinate, and is apt to be referred to the liver, the spleen, or sometimes to the lungs. I have seen reason to believe that the seat of it is often in the arch of the colon; and, after having resisted a variety of active treatment, I have found it yield to the combination of tonics and gentle laxatives, as sulphate of iron and aloes, with extract of hyoscyamus.

Sect. II.—*Cough from Irritation of the Diaphragm, by Diseases of the Liver, Spleen, &c.*

Cough, and uneasiness in breathing, are frequent attendants on diseases of the liver, both acute and chronic. It is when the disease in the liver is not the prominent symptom, that the case comes to be of importance in connection with this inquiry. The cough, in such cases, is at first dry, but whenever there is a frequent irritating cough, from whatever cause, there comes to be an increased secretion from the bronchial membrane, produced by the irritation. Hence, there may be considerable expectoration, and even sometimes bloody.

Case I.—A lady, aged 35, had severe cough, with considerable expectoration; dyspnœa, which was sometimes severe, especially in the night; pain of the chest and side; frequent pulse; restless nights, with feverish paroxysms and morning sweats. The expectoration was viscid, frequently with a mixture of puriform matter, and occasionally of blood. In addition to these symptoms, she was liable to periodical fits of vomiting, which attacked her generally in the evening, and pain, which was referred to the left side of the abdomen, about the region of the spleen; but no disease could be detected, either there or in the liver. These complaints went on for upwards of two years, without materially reducing her, or impairing her strength. But, in the third year, her strength began to fail. She had then diarrhœa, anasarca, and gradual emaciation, and died exhausted about three years from the commencement of the complaint. Towards the end of her life, the vomiting became less frequent, but the severe rending cough continued, with copious expectoration, and severe fits of dyspnœa. On dissection, no morbid appearance could be detected in the lungs, or in any part of the thorax. The spleen was enlarged and hard. On the upper surface of the liver there was a considerable tumefaction, the surface of which was studded with small hard tubercles: it protruded against the diaphragm, and pressed it upwards. But though the diameter of the liver was thus considerably increased at this part, it did not appear to project downwards from its natural situation. The other viscera were healthy.

This case is the most remarkable example of the kind that has occurred to me, and it shows strongly how much the symptoms may assume the appearance of an affection of the lungs. The only peculiarities were the fits of vomiting, the cough being louder and more noisy than the ordinary cough of consumption, and the length of time during which the symptoms continued without impairing her strength. Many cases of a similar kind are on record. In a case by Portal, similar symptoms were connected with scirrhus of the pancreas, and disease in the mesenteric glands, without any morbid appearance in the thorax. The symptoms were, frequent cough, slight fever, gradual wasting, and at length death, without any other prominent symptom. In a case by Bonetus, similar symptoms were connected with disease of the spleen; and, in another, by the same writer, the only morbid appearance was in the right kidney, the lungs being perfectly healthy,—there had been cough for two years, and gradual wasting. In a case by Morgagni, there was a tumour, which weighed lb. i. attached to the posterior part of the stomach. The symptoms were, dry cough, difficult breathing, loss of appetite, and watchfulness. A young woman, mentioned by Laennec, had cough, dyspnœa, copious expectoration, hectic fever, and great wasting. After the symptoms had gone on for some time, and she was considered as decidedly phthisical, she was seized with violent pain in the epigastrium, and soon after discharged, by stool, an immense quantity of hydatids. From that day she recovered, and was soon well.*

In the cases now referred to, the pectoral symptoms seem to have arisen from mechanical irritation of the diaphragm. But there is another way, in which an affection, resembling consumption, arises from disease of the liver. The upper surface of the liver is attacked by inflammation, which terminates in an abscess, the inflammation extends through the diaphragm to the pleura, and an adhesion takes place betwixt the diaphragm and the lower part of the right lung. The matter from the abscess making its way upwards, passes, by means of this adhesion, into the bronchiæ, and is spit up. Cough, with purulent expectoration, then continues, and may either wear out the patient with all the usual symptoms of consumption, or the abscess may gradually heal, the expectoration at the same time gradually diminish, and the patient recover. If a case of this kind be seen from the commencement, it is in general easy to distinguish the nature of it, but, at an advanced period, it has

* Laennec, L'auscultation Mediate, Tom. I. p. 278.

very much the appearance of consumption. This affection is illustrated by the two following cases:

Case II.—A lady, aged 40, had been affected for some months with uneasiness in the region of the liver, when, on the 5th of October 1815, she was seized with violent pain there, and vomiting. By the usual remedies, she was much relieved, but some degree of uneasiness continued for several weeks. It then seemed to subside, but, after a short interval, returned with violence, accompanied by vomiting, and fits resembling syncope. The whole region of the liver was tense and tender to the touch, with evident enlargement. The pulse varied, being sometimes frequent and small, and sometimes quite natural. A variety of practice was now employed with little relief,—the pain was at times so violent, that, for many nights together, she was unable to lie down in bed. These paroxysms alternated with intervals of ease, but by the repetition of them for nearly three months, her strength was very much reduced. In the end of December she began to have cough, with some expectoration, which had a purulent appearance. On the 14th of January she was seized with a violent fit of coughing, and expectorated purulent matter to the amount of at least lb. ij. On the 15th, she expectorated, in the course of the day, at least lb. i., and about the same quantity on each of the two following days. The quantity then diminished considerably until the 25th, when she again brought up about lb. i., and the same quantity a few days after. The enlargement in the region of the liver then subsided, and from that time there was no great discharge, but she continued to have cough, with purulent expectoration, as in a case of consumption, with great weakness and emaciation. These symptoms continued for several weeks; the expectoration then began to diminish, and gradually ceased. She recovered her strength, and, by the end of May, was free from complaint. She has enjoyed good health ever since.

Case III.—A soldier had an attack, which was considered as peripneumony, and was accompanied by pain in the lower part of the right side. It terminated in purulent expectoration, with wasting, and colliquative diarrhœa, and he died in three months. On dissection, there was an abscess, three inches in diameter, in the upper part of the liver, a strong adhesion of the right lung to the diaphragm, and a sinus, six inches long, passing through the substance of the lung, and communicating with the abscess of the liver. The lungs were, in other respects, sound.*

In cases such as these, it has been supposed that a diagnosis might be founded on a mixture of bile with the matter expec-

* Edinburgh Medical Essays, Vol. I. p. 217.

torated. I observed no such mixture in the former of these cases, and I see no reason for expecting it in all cases, for if the abscess be lined by coagulable lymph, as is likely to be the case, it is cut off from any connection with the biliary ducts.

In regard to the treatment, little need be said. In the early stages, it must be directed to the inflammatory disease in the liver,—in the advanced stages, it must consist in supporting the strength, and favouring the healing of the abscess, by tonics and nourishing diet.

This affection is met with in a less active form, not advancing to suppuration, but continuing, for some time, in what is called a sub-acute state, producing symptomatic cough, and other pectoral symptoms, and distinguished by tenderness in the region of the liver. If taken in time, it yields to treatment directed to the liver, especially topical bleeding and blistering, in the early stages, and afterwards a little mercury, with opium. I have observed it chiefly in elderly people, but it is not a common disease in this country. In these and the other cases of symptomatic cough, as it may be called, the cough is generally louder, and more noisy than in a pulmonic affection, the lungs being more freely inflated than they are likely to be when the cough is connected with disease in the thorax.

Sect. III.—*Chronic Inflammation, and Ulceration of the Larynx, or the upper part of the Trachæa.*

This affection forms the laryngæal phthisis, to which more attention has been paid on the Continent than in this country. It is a disease of not unfrequent occurrence, and of extreme danger, and it presents a most important subject for investigation. The symptoms vary considerably in different cases, according to the seat and extent of the disease, but many of the cases are with great difficulty distinguished from the ordinary consumption of the lungs. There is frequent cough, with purulent expectoration, frequently mixed with blood, gradual emaciation, hectic fever, at last diarrhœa, and death, with the usual appearances of phthisis. But, on dissection, the lungs are found perfectly healthy, the morbid appearances are confined to the inner surface of the larynx, or the trunk of the trachæa, and usually consist of one or more well defined ulcers, sometimes with caries of the cartilages, and sometimes with irregular fungous elevations of the mucous membrane.

The symptoms by which this disease is distinguished from pulmonary consumption are not uniform, and are often obscure.

There is generally a feeling of irritation about the larynx, and sometimes acute pain referred to a particular spot on the larynx or the upper part of the trachæa; in some cases the larynx is painful on pressure; the voice is generally more or less affected with hoarseness, or a peculiar huskiness; in many cases it is much impaired, so that the patient can only speak in a whisper, and sometimes it is entirely lost. The cough is severe; in some cases occurs in paroxysms, almost resembling the paroxysms of hooping-cough, and sometimes it excites vomiting. The proper expectoration is purulent and in small quantity, sometimes mixed with small membranous portions, and often bloody; but it is always to be kept in mind, that when the lungs are much irritated by cough, kept up by any cause external to them, an increased secretion from the bronchial membrane is apt to be produced by the constant irritation, or even the real chronic inflammation of the membrane. Hence the expectoration sometimes consists of considerable quantities of viscid mucus from the bronchiæ, streaked with pus from the real seat of the disease. In many cases the breathing is considerably affected, and this may either be a permanent difficulty with wheezing, or it may occur in paroxysms. These attacks are sometimes accompanied by palpitation, and other symptoms so severe, that the affection has been mistaken for disease of the heart. These symptoms seem to occur chiefly when ulceration is seated in the lower part of the trunk of the trachæa, about the bifurcation; especially if it be accompanied (as it frequently is) by fungous elevation of some of the parts connected with the ulcer. In some cases there is difficulty of swallowing, the attempt exciting pain and paroxysms of cough.

The principal morbid appearances are chronic inflammation and ulceration of the inner surface of the larynx, or the trunk of the trachæa; sometimes with caries of the cartilages, and sometimes with thickening of the membrane and fungous elevations, which considerably narrow the canal. In some cases small abscesses are found. These, however, generally burst before death. In one case, which will be referred to, such an abscess burst externally, but without arresting the disorder. The disease may come on gradually in the form of chronic inflammation, or it may supervene upon an acute attack, ulceration being left as the result of it. In some cases tubercles have been found on the mucous membrane of the trachæa, and the affection has arisen from these passing into ulceration. The disease may be fatal by gradual emaciation, like a common case of consumption; or rapidly by the accession of inflammatory symptoms; or suddenly by suffocation. The prognosis is in all cases ex-

tremely unfavourable. Except the disease can be arrested in its first or inflammatory stage, it will probably be fatal. It is therefore of the utmost importance that the first appearance of it be watched with the greatest care, and treated with the greatest decision. The remedies are obvious, though they may be varied a little according to the circumstances of the case. General bleeding may often be required; topical bleeding must be used extensively and repeatedly. The other remedies are blistering, issues, antimonials, very spare diet and perfect rest, purgatives, and perhaps emetics; calomel may be useful in some cases after the first activity is subdued. When the disease has got into the state of ulceration, I cannot say what is the best treatment, or whether any treatment can arrest the progress of it. Those from which we might expect benefit are issues, emetics, opiates, antimonials, warm air, perhaps balsamic fumigations, and preparations of iron, and perhaps in some cases small quantities of mercury with opium. The French believe that the disease has in some cases a syphilitic origin.

Morgagni seems to have been the first who attended to the peculiar nature of this affection. At an early period of his life, a case occurred to him, which had been considered and treated as pulmonary consumption, by the most eminent physicians. The symptoms were cough, with purulent and bloody expectoration, and a fixed pain a little below the larynx, without fever. Morgagni considered it as a disease of the trachæa, and it got well by confinement, rest, regulated temperature, and spare diet. I suspect that the disease in a slighter form is more common than is supposed. I have repeatedly met with cases of obstinate cough which had resisted the usual remedies, and at last yielded to topical bleeding on the larynx. I have formerly described a case of this kind, which occurred in a gentleman about fifty, and was remarkable from the extreme violence of the paroxysms of coughing. They resembled the most violent hooping-cough, and sometimes continued for more than an hour without intermission, until they threatened suffocation or apoplexy. After resisting the most active treatment, the case yielded readily to two applications of leeches to the larynx.* The great importance of this subject will be a sufficient apology for adding some cases illustrating the various modifications of the disease.

Case IV.—A man, aged 33, after sitting in a current of air when much heated, was seized with cough and pain extending from the

* Edinburgh Medical Journal, Vol. XV.

throat to the breast. After a short time, his voice was much impaired; the cough was violent; the expectoration at first mucous, afterwards purulent; he then had hectic paroxysms, and night-sweats; dull uneasiness of the breast, and rapid emaciation; there was a constant tickling irritation of the throat, and deglutition was painful. His voice at last was entirely lost, and he died completely emaciated in less than three months from the commencement of the disease. *Dissection.*—An ulcer of the superior and middle part of the larynx, occupying half its circumference at the upper part, and extending to the epiglottis; left arytenoid cartilage ossified and carious; surface of the cricoid cartilage covered by red elevations; the membrane covering the right arytenoid was thickened and ulcerated; mucous membrane of the trachæa vascular and thickened; lungs adherent, and some small grey tubercles in them; otherwise healthy. *

Case V.—A young man, aged 16, after exposure to cold when heated, had headach, pain of the throat, cough, fever, and epistaxis. After a fortnight, he had severe diarrhœa, and tight breathing: cough continued, with thick expectoration, and febrile paroxysms; then great debility, involuntary stools, tenderness of the abdomen, harassing cough, and he died in about a month. *Dissection.*—Pharynx and adjoining parts red; the larynx red, and an ulcer at the base of the epiglottis; the lining membrane and chordæ vocales thickened; behind the arytenoid cartilages, a small opening led into a sac, which had contained pus; lungs healthy; bronchial membrane dark-coloured; inflammation, and some appearances of ulceration of the mucous membrane of the intestines. †

Case VI.—A man, aged 39, after pneumonic symptoms, had a tickling sensation in the throat, with constant desire to cough; alteration of voice, and hoarseness; copious expectoration of frothy mucus, with purulent particles interspersed in it; frequent pulse; lassitude; sleep nearly prevented by incessant cough; emaciation. Died in four months. *Dissection.*—Superior aperture of the larynx was diminished by thickening of the membrane; one arytenoid cartilage, and part of the other, destroyed by ulceration; trachæa healthy. ‡

Case VII.—A girl, aged 19, had cough, difficult breathing, with a peculiar noise, somewhat resembling croup; pulse natural; no debility or constitutional disturbance; ill three months. Died unexpectedly in the night. *Dissection.*—Rima glottidis contracted; posterior part of the inner surface of the larynx occupied by an ulcer; a second ulcer on the posterior part of the trachæa, a little below the larynx; and a third a little lower, which nearly embraced the cir-

* Prost. Med. Eclairée par l'observation et l'ouverture des Corps.
† Ibid.
‡ Beddingfield's Compendium of the Practice of Physic.

cumference of the trachæa, and was about one-third of an inch broad; bronchiæ and lungs healthy. *

Case VIII.—A man, aged 34, had cough, with mucous expectoration; pain of the larynx; hoarseness. After some weeks, the cough increased, and the expectoration became purulent; fever, and some dyspnœa. Died gradually exhausted in two months. *Dissection.*—Ulceration of the mucous membrane of the larynx; arytenoid cartilages carious, and covered with pus; lungs and trachæa quite healthy. †—In another man, with similar symptoms, a tumour formed on the fore part of the neck, which suppurated and discharged matter, and left a fistulous opening, which communicated with the larynx. The symptoms were relieved for a short time; but they soon returned; his voice was entirely lost; and he died gradually exhausted. His body was not examined.

Case IX.—A man, aged 49, after the sudden disappearance of glandular swellings of his neck and arm-pits, with which he had been affected for seven or eight months, had cough with tight breathing, and at times a sense of suffocation; frequent pulse; weakness and wasting; after some time he had purulent and fetid expectoration, which was sometimes mixed with frothy and pituitous matter; fits of coughing after meals, which excited vomiting; increasing weakness; afterwards he had habitual dyspnœa, and fits of palpitation; voice hoarse; at length orthopnœa; died in six months. The case had been considered as disease of the heart. *Dissection.*—In the inferior part of the trunk of the trachæa near the bifurcation, there was an ulcer occupying about half its circumference, and about an inch and a half in length; the cartilages denuded and eroded; the ulcer was covered with yellow pus; mucous membrane around it inflamed; some puriform mucus in the bronchiæ; all the other parts healthy, except a very small portion of the lower part of the right lung, which was slightly hepatised, but not to such a degree as to sink in water. ‡

Case X.—A man, aged 39, had dry cough, attacking him in paroxysms, which he neglected for six months; then occasional fits of dyspnœa and suffocation, which usually continued some hours. At first they occurred seldom, but in the ninth month were more frequent. At this time expectoration began, which was glairy and ropy; voice impaired and afterwards lost. In the fourteenth month he began to waste, and had pain in the chest, behind the upper part of the sternum; hectic fever; diarrhœa; fits of dyspnœa continued; expectoration copious but without pus. Died in the last degree of

* Beddingfield, ut supra.
† Journal de Med. Tom. IX. An. xiii. New Series, p. 185.
‡ Cayol, Recherches sur la Phthisie Trachéale.

wasting after sixteen months; the fits of dyspnœa having become less frequent and less severe for some time before death. *Dissection.*—Larynx sound; two inches below it, the membrane of the trachæa became red, and the redness became more intense the lower down, until it led to a large and deep ulcer, extending half an inch into the bifurcation on both sides. Its surface was unequal, and covered with various tubercles, white, red, and brown; bronchiæ below healthy; lungs quite sound, except a slight adhesion on the right side. *

Case XI.—A woman, aged 50, liable to dyspnœa and hæmoptysis, had constant dyspnœa and wheezing, with exacerbations, which threatened instant suffocation; feeling of heat and tightness behind the sternum; cough occurring in violent paroxysms, with viscid expectoration; voice hoarse; occasional faintings; pulse natural. After some time dyspnœa increased; face livid; was obliged to sit up in bed with her body leaning forward; violent pulsation of the heart on the least motion; expectoration streaked with pus; died suddenly after fourteen months. *Dissection.*—An ulcer two inches long, occupying the whole circumference of the trachæa immediately above the bifurcation; cartilages in some places exposed and eroded; but in other places the canal was narrowed by the thickening of the parts; bronchiæ loaded with puriform fluid, and the membrane red; lungs sound, except some small portions which were slightly hepatised; heart sound.†

Case XII.—A woman, aged 40, after the healing of an ulceration of the pharynx, had cough with a feeling of tickling in the glottis; purulent expectoration streaked with florid blood; pulse frequent; voice altered; continued five or six months with little change, and was then cut off by a rapid inflammatory attack after exposure to cold. *Dissection.*—A circular ulcer in the upper part of the trachæa, about one-sixth of an inch in diameter; lungs sound; bronchiæ vascular and filled with puriform fluid. ‡

Case XIII.—A man, aged 47, had violent cough; hoarseness; some dyspnœa; fever; wasting; died in three months. *Dissection.*—A small ulcer found near the larynx; lungs healthy. §

As this affection has been little attended to in this country, I have thought it of importance to refer to these examples, calculated to illustrate its various modifications, and to establish the pathology of it as a fatal disease, quite distinct from any disease of the lungs. It also occurs in combination with the ordinary

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* Cayol, Recherches sur la Phthisie Trachéale. † Ibid.
‡ Hastings on Diseases of the Bronchiæ, p. 246.
§ Badham on Bronchitis, p. 162.

tubercular phthisis; and this seems to be so frequent, that from the examination of a number of cases in the French hospitals, M. Bayle supposes the larynx to be affected in one case out of six. The ulceration of the larynx seems in some of these cases to be the primary disease, and in others a secondary affection, occurring as part of that general tendency to ulceration of the mucous membranes which exists in the advanced stages of consumption. When it is the primary disease in a person in whom tubercles exist in the lungs, it is not unlikely that the constant irritation kept up by the laryngæal disease may excite the tubercles into activity, and thus prove the immediate cause of phthisis. A man, aged 30, had cough with pain referred to the larynx, and mucous expectoration, mixed with small pieces of pus; his voice was hoarse and sibilous; deglutition very difficult, the attempt exciting vomiting; hectic fever; died in five months. *Dissection.*—An ulcer nearly an inch in extent, made a free communication betwixt the laryux and the pharynx. Posterior part of the cricoid cartilage was so carious, that it projected into the pharynx at both sides. The lungs were tubercular, and abscesses had begun to be formed at the upper part of them.* A woman who had been long affected with cough and pain of the larynx, was afterwards seized with pain of the breast, dyspnœa, loss of voice, and died gradually exhausted. An ulcer was found in the larynx, and induration with abscess of the left lung.†

On the other hand, when the laryngæal or trachæal ulceration appears as the secondary affection, it seems to occur merely as a part of that general tendency to unhealthy ulceration, which exists in many of these cases, particularly ulceration of mucous membranes. This occurs most remarkably in the mucous membranes of the intestinal canal, but may also be observed in the larynx, the trachæa, the bronchiæ, the œsophagus, and even in the urinary bladder. The ulcers in such cases are small but numerous, less extensive, less deep, and more numerous than in the cases of primary ulceration of these parts.

Case XIV.—A gentleman, aged 45, after suffering much from scrofulous tumours on the neck, which suppurated slowly, had cough with frequent pulse; night sweats; emaciation and weakness; expectoration scanty, and consisting of whitish phlegm with a small mixture of puriform matter; his voice was weak and hoarse; and the cough had a peculiar husky sound; breathing sometimes a little

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* Frank, Act. Institut. Clinic. Vilnensis, An. II. p. 63.
† Bayle, Recherches sur la Phthisie Pulmonaire.

frequent, but complained of no pain, and took a full breath without uneasiness; died gradually exhausted after five or six months. *Dissection.*—Left lung sound; right extensively indurated, and full of small abscesses; mucous membrane of the larynx thickened, with some ulceration; mucous membrane of the trachæa covered through its whole extent by a succession of minute ulcers, not above the twentieth of an inch in diameter.

The only other modification of this affection which deserves to be mentioned is, when tubercular disease exists both in the lungs and the trachæa at once, and in both is brought into activity about the same time. A girl, aged eight, liable to cough and glandular swellings, was seized with dry cough, difficult breathing, and slight fever, which appeared in the evening. After five days, great oppression, more fever, great dyspnœa, and difficult deglutition; copious perspirations; pain referred to the neck. About the eleventh day, cough increased; occurred in frightful paroxysms, with puriform expectoration streaked with blood, and membranous concretions; died on the 25th day. *Dissection.*—The lungs were full of steatomatous concretions, many of which had begun to suppurate; there were similar concretions in the trachæa and the larynx, which were ulcerated, and furnished much pus.* In another case, in which an affection of the lungs terminated in nearly the same manner, tubercles and ulcers were found in the trachæa and the larynx, and an abscess, containing ℥i. of matter betwixt the larynx and the pharynx; the lungs extensively tubercular and suppurated. The power of swallowing was lost in this case.†

Sect. IV.—*Chronic Inflammation of the Mucous Membrane of the Bronchiæ.*

The acute inflammation of the mucous membrane of the bronchiæ was long confounded with pneumonia. It is now perfectly distinguished from it in a pathological point of view, though it must be confessed, that in practice the diagnosis is sometimes difficult.

The disease, in its chronic form, may supervene upon one of these acute attacks, or upon a severe catarrhal affection, which, indeed, is nearly allied to it, or it may come on gradually, without being preceded by any acute symptoms. In general, however, it is preceded by an acute attack in some form, especially a

* Portal sur la Phthisie Pulmonaire, Tom. I. p. 18.
† Ib. p. 101.

severe and protracted catarrhal affection, commonly called a neglected cold.

The morbid condition which then takes place consists, in some cases, of a succession of small superficial ulcers of the bronchial membrane, which can be distinctly traced in the larger branches. In other cases it is a red fungous appearance of the membrane, with irregular granular elevations, and sometimes merely a dark-red colour, with a morbid condition of the secretion. The secretion also varies considerably in different cases and different states of the disease. In some cases it is a viscid, glairy, transparent fluid; in others, viscid and opaque; in others, yellow and viscid; in many, friable, with the sensible properties of purulent matter; and there cannot be a doubt that pus is really formed, as it can often be distinctly traced to an ulcerative process. In general, the expectoration consists of a mixture of some of these, as the opaque viscid matter, with a mixture of pus, and frequently of blood, and the blood is sometimes in considerable quantity.

The disease admits of great variety in its extent, being in some cases confined to the larger branches; in others extending into the smaller ramifications; and in some severe cases it appears to occupy nearly the whole extent of the bronchial membrane. In these cases we trace a redness of the membrane into the minute branches, but we ascertain the disease chiefly by its effects on the secretion, the bronchial tubes being nearly filled with an opaque yellow fluid, having the sensible qualities of purulent matter. When cleared of this fluid, the substance of the lungs is found quite healthy.

In an affection which admits of such variety, both in degree and extent, the symptoms must vary exceedingly, and it is impossible to describe all the modifications of them. Those cases which are of the greatest importance in this inquiry approach so nearly to the characters of consumption, that, in practice, it is often difficult to distinguish them. There is frequent cough, with some uneasiness in the chest, which is in some cases described as a tightness, in others as a rawness or soreness, giving some pain in breathing, and a full inspiration is apt to excite cough. There is considerable expectoration, which in some cases is viscid and tenacious, in others has the sensible properties of pus, and sometimes consists of small quantities of pus, mixed with white frothy fluid. The disorder may go on for a considerable time without much impairing the general health, but rendering the patient able for little exertion, from an extreme susceptibility of cold, and a tendency to have the symp-

toms aggravated by any exposure. In other cases there is, from an early period, frequent pulse, with dyspnœa, hectic fever, anasarca, perspirations, diarrhœa, and wasting, and all the usual appearances of phthisis. In this manner, it may be fatal by gradual wasting, but the fatal termination often occurs more rapidly in one of the attacks of aggravation of the symptoms from accidental exposure to cold.

The diagnosis betwixt this disease and consumption is often extremely difficult. It must depend, not so much on any particular symptom, as on a careful attention to the history of the disease, and to the character of the expectoration. The expectoration I think is generally more copious than in true consumption, and more tenacious; though it has the purulent colour, it has less friability; when spit upon water, and collected in considerable quantity, it hangs more together, part floating on the surface, and part sinking to the bottom, with viscid filaments running from the one to the other, and connecting them together; and other filaments hanging down from the floating part in loose fringe-like appendages. If examined carefully on successive days, it will be found to vary its characters considerably, being on some days more puriform, and on others more mucous and glairy. The expectoration in true consumption is more uniform in its appearance, that is, after it has become decidedly purulent. It is more apt to sink in water, and has less tenacity, in so much, that after a considerable quantity has been collected, each separate sputum may often be observed lying quite distinct from the rest, and on shaking the vessel, may be seen floating or rolling about without any cohesion. I do not say that these marks are to be relied on, but they are worthy of attention, and the subject deserves minute investigation. Something also is to be learned from the history. The cases are most likely to be this bronchial affection, which have supervened upon an acute inflammatory attack, or on severe catarrhal fever or measles; while the cases which have come on slowly and insidiously, assuming gradually a more and more unfavourable appearance, are more likely to be the true consumption of the lungs.

The prognosis is much more favourable than in the true consumption, and many cases recover perfectly, even at an advanced period, after the symptoms have assumed the most alarming appearance, and the patient is much reduced. But it is also often fatal by progressive emaciation, as in consumption, and exhibits on dissection the morbid appearances already referred to, without any disease of the substance of the lungs.

CASE XV.—A man, aged 33, after severe catarrhal symptoms with an exanthematous eruption, had cough, copious expectoration of an opaque fluid entirely resembling pus; short quick breathing; small frequent pulse; night sweats and diarrhœa. He died suddenly after indulging in wine, about a month after the attack. *Dissection.*—The lungs were quite sound without either tubercle or induration. The mucous membrane of the bronchiæ was red and thickened, and the bronchial tubes contained much puriform fluid, similar to that which had been expectorated. *

CASE XVI.—A man, aged 25, had pain of chest, with a sense of load or weight in it; difficult breathing; a hoarse cough with expectoration; frequent pulse; and strong action of the heart. After repeated attacks for two years, the disease became permanent with copious expectoration, occasionally streaked with blood; profuse perspiration; gradual emaciation and death. *Dissection.*—Heart and lungs quite healthy; mucous membrane of the trachœa and bronchiæ inflamed; the former slightly; the latter more considerably; the branches contained a great quantity of frothy fluid. †

CASE XVII.—A girl, aged 15, after a febrile attack with cough and dyspnœa, had severe cough, with copious expectoration, composed of pus and mucus, and sometimes bloody; debility; increasing emaciation; perspirations; expectoration becoming more purulent; death in two months. *Dissection.*—Lungs healthy, except a little harder and heavier than natural. Trachæa and bronchiæ full of puriform fluid. Bronchial membrane thickened and highly vascular, and small ulcers were found in various parts of it. ‡

Dr Willan frequently met with the disease in London, supervening upon catarrhal fever. There was cough, with thick viscid expectoration, often bloody, and in some cases a mixture of fetid, greenish matter, hectic fever, sweats, and diarrhœa. They all seem to have recovered by topical bleeding, blistering, and antimonials. §

There is another modification of the disease, which occurs in persons rather advanced in life. There is cough, with copious expectoration, varying in its characters, sometimes distinctly purulent; but the prominent symptom is difficulty of breathing. In some cases it is permanent dyspnœa, with suffocating cough; in others it occurs in paroxysms, like asthma, but the paroxysms

* Bayle. Recherches sur la Phthisie Pulmonaire. Obs. 48.
† Roberts. Trans. of College of Physicians. Vol. IV. p. 131.
‡ Hastings on Inflammation of the Mucous Membrane of the Lungs. p. 315.
§ Willan on the Diseases of London.

pectoration must be derived from the bronchial membrane, except when it advances to suppuration; so that this disease is probably accompanied in all cases by more or less of the bronchial affection. The disease, beginning in this way, may pass into a chronic form, in which the chronic disease of the membrane, with its usual symptoms, is combined with induration of the lung. The expectoration, in these cases, being often puriform, and very abundant, may give the appearance of abscess of the lung.

Case XVIII.—A man, aged 25, after acute peripneumonia, continued to have cough with copious expectoration, which was mucoso-purulent; rapid wasting, and death in two months. *Dissection.*—Both lungs were indurated like liver, in three fourths of their substance; but without any appearance either of suppuration or tubercles. The appearance of the bronchial membrane is not mentioned, but the expectoration must have been derived from it.*

In another case, the disease was found at an earlier period. A man, aged 36, had difficult breathing, the lungs being dilated with a great effort and a rattling sound; he had cough with mucous expectoration, and died in a month. The lungs were extensively hepatised, but without tubercles. The bronchial membrane below the bifurcation was red and thickened, and covered in many places by a deposition, resembling the membrane of croup. Had tubercles existed in either of these cases, they would probably have been excited into action, and would have been found in a state of suppuration. In some of these cases, however, an appearance presents itself which is apt to be mistaken for suppurated tubercles. In cutting through the hepatised portion of lung, drops of purulent matter start up at numerous points, giving the appearance of numerous small abscesses; they seem to be merely drops of the puriform secretion, discharged from the bronchial canals when they are cut across.

There is still another modification of chronic disease of the bronchial membrane, which, though of rare occurrence, deserves to be noticed. The exudation from the diseased membrane assumes a firm and membranous appearance, and is spit up in the form of polypous concretions or cylindrical tubes of considerable extent, exhibiting the ramifications of the bronchiæ. This appearance was observed by some old writers, and was then considered as an actual discharge of the vessels of the

* Broussais. Histoire des Phlegmasies Chroniques. Tom. I. p. 68.

lungs from extensive destruction of their substance. A young man, mentioned by Tulpius, expectorated a tubular portion of this kind, the length of a finger, and branching like an artery. He recovered at that time, but died of pectoral complaints a year after. Another patient, mentioned by the same writer, brought up, with much blood, a similar mass, branching out like the hand.* A gentleman, mentioned by Dr Nichols, after an inflammatory attack, coughed up large portions, hollow, very tough, and branching like blood-vessels. He continued to discharge them frequently for seven years, and was otherwise in good health.† A boy, aged five years, mentioned by M. Bussiere, had cough, with occasional hæmoptysis, for a year; and, about a fortnight before his death, began to spit up firm membranous substances, shaped like vessels. On dissection, the trachæa and bronchiæ, through their whole extent, even into the smallest branches, were lined by a membranous deposition, which adhered to the inner surface of these parts by very fine filaments, and was easily separated. The lungs in other respects were sound.‡ A gentleman, mentioned by Dr Cheyne, had cough, dyspnœa, hoarseness, and puriform expectoration, and occasionally brought up firm membranous portions, of a semicylindrical shape, which appeared to have been thrown off from a part of the trachæa, above the bifurcation. They were of a much greater density than the membrane of croup, and of a finer white; consisted of a succession of layers, and were about a line in thickness. The case was in an active form at first, and was treated by repeated bleeding; and he recovered, having continued for some time to expectorate smaller portions of the same membranous substance.§ A woman, mentioned by the German translator of Portal on Phthisis, expectorated large quantities of the same matter, very firm, in some places almost cartilaginous, and having exactly the appearance of the bronchial ramifications: they were so large, that it seemed inconceivable how they had passed through the glottis. She recovered perfectly in a few weeks.

Bronchial inflammation, in its active state, requires the most decided antiphlogistic treatment in its early stages; but the period for active practice is soon over; and if the efficient treatment has been neglected at the proper period, there is great danger, either that the disease will be fatal, or that it will pass

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* Tulpii, Observationes Medicæ, Lib. II. cap. xiii.
† Philosophical Transactions, 1731, No. 419.
‡ Ibid. No. 263.
§ Edin. Med. Journal, Vol. IV. p. 441.

a chronic state, in which it is likely to prove extremely te-
and untractable.

the early stages of the chronic disease, or what may be
d the subacute state of it, benefit is derived from topical
ing, blistering, issues, rest, cool spare diet, regulated tem-
ure, mild emetics, antimonials combined with opiates, Do-
powder, and digitalis. Some rely much on calomel com-
with opium. Dr Hastings recommends extract of cicuta,
small doses of ipecacuan. When the disease is decided-
a chronic state, with general debility and wasting, it is to
ated entirely upon the tonic plan, by nourishing diet, a
us allowance of wine, gentle regular exercise, change of
iction of the body, sponging with vinegar and water, cold
id, and remedies of a tonic or stimulating kind, combined
mild opiates, as the cough may require. Of the remedies
yed with this view, a great variety have been recommend-
hey act nearly on the same principle. The most useful
e following: bark in decoction, or in substance; strong
tions of the vegetable bitters, with a proper proportion of
num, or tincture of hyoscyamus, in each glass; prepara-
of iron, with opiates; balsam of copaiva; myrrh; col-
m; gum ammoniac; seneka; cascarilla; lime-water; hore-
l. Kerckhoffs recommends the Viscum album as of great
y, either in powder or decoction; and the powdered bark
e Salix alba, with a sixth part of sulphur, made into an
ary with syrup of poppies. * Keeping up a pustular
ion on the thorax, by an ointment containing tartrite of
ony, is said to be sometimes extremely beneficial. It is in
ffection, I imagine, that the tar vapour is useful. The pa-
ms of dyspnœa, which occur in the disease in elderly peo-
ften do not yield to the antispasmodics which relieve asthma.
e found nothing so useful in some of these cases as a mo-
dose of laudanum, with a small quantity of tartrite of
ony in solution, perhaps one-sixth or one-fourth of a grain,
h a quantity as can be taken without exciting vomiting.

eading character of this disease is a remarkable suscepti-
of cold; and when it proves obstinate, a most important
re is removal to a mild and equable climate. It is proba-
these cases that this measure has been chiefly beneficial.
s highly satisfactory to know, that, upon this general plan,
cases have been treated successfully, after they had as-
l an alarming appearance, and had exhibited many of the

* Trans. of the College of Physicians, Vol. VI. p. 27.

characters of an advanced stage of consumption, severe cough with purulent and bloody expectoration, febrile paroxysms, perspirations, debility, and emaciation.* In this state it is certainly a disease of great danger, but it is never to be despaired of.

Sect. V.—*Chronic Inflammation of the Pleura.*

This affection is of great importance in this inquiry, as it assumes in a great degree the characters of phthisis, and I suspect is often mistaken for it. The symptoms are cough, with some degree of pain in the thorax, generally either under the sternum, or in one side; tightness and oppression of breathing. The pain is increased by coughing, and by bodily exertions, as walking, and sometimes considerably impedes respiration. The cough is at first short and dry, afterwards there is mucous expectoration, often bloody; and in the advanced stages, it is apt to assume a puriform appearance, and is sometimes decidedly purulent. The pulse is generally rather frequent, but is sometimes very little affected. In this state the symptoms may continue for a considerable time, without producing much constitutional disturbance; but as the disease advances there is debility, with emaciation, hectic paroxysms, night-sweats, diarrhœa, and death by gradual exhaustion, in many cases with great difficulty of breathing, and symptoms resembling hydrothorax.

The morbid action which is going on during this course of symptoms, originates in inflammation, confined to a circumscribed portion of the pleura, and in general not assuming much activity. There is reason to believe that it may continue in this state for some time, and then subside, leaving perhaps adhesion at the part, but no morbid affection of a serious kind. In other cases it is more fixed, and spreads over a greater extent of the pleura, in some cases nearly over the whole of one side. It produces deposition of coagulable lymph, and effusion of

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* See Richter on Mucous Consumption, Hastings, Badham, Willan, Bayle, Portal, and some very interesting cases by Dr Chapman in the Medical Communications, Vol. I. which had all the symptoms of advanced phthisis, and recovered under the use of cinchona in doses of ʒi. three times a-day. Is the remarkable case described by Mr Abernethy referable to this head? I am inclined to think it is. The patient had severe cough, with extreme emaciation, and a pulse at 140. She spit up in each 24 hours more than a pint of mucus, mixed with pus, and streaked with blood, and had constant diarrhœa, with black and offensive discharges. She took twice a-day a grain of opium, with gr. ss. of calomel, and recovered perfectly. The calomel affected her mouth after she had taken twelve pills. From that time the stools became of a natural colour and consistence; the other symptoms subsided, and soon ceased.

a turbid fluid, with flocculi of yellow matter; and frequently the whole assumes a puriform appearance. This effusion may either be contained in the general cavity of the pleura, or in a small portion of the cavity, forming a cyst lined by coagulable lymph, the remainder of the cavity being obliterated by adhesion. In a case by Dr Armstrong, an abscess had been formed immediately under the pleura pulmonalis, betwixt it and the substance of the lung. The quantity of fluid has sometimes been found to amount to seven or eight pounds. The lung in such cases is compressed, and has a firmer appearance than natural, in consequence of the compression; but it may be entirely free from disease, except a coating of coagulable lymph on its surface. Its appearance has been frequently compared to the lung of the fœtus. It has been in some cases so compressed, and so concealed by coagulable lymph and yellow flocculent matter, that it has appeared at first sight to be wanting; and it is probably in cases of this kind that a whole lung has been supposed to be destroyed. In other cases, the inflammatory action spreads into the substance of the lung, producing induration, and the other usual consequences. The affection may also be complicated with tubercular disease, in which case the tubercles will probably be found in a state of suppuration. But the disease may exist without any such combination, and may go through its course to a fatal termination, without any disease of the substance of the lungs.

The expectoration in this disease must generally be from the bronchial membrane, as in all cases in which there is frequent irritation of the lungs, without disease of their substance. At first it is merely an increased secretion; but in the more advanced stages, it seems to amount to chronic inflammation of the membrane; hence the expectoration may assume a puriform character. But there is another source of puriform expectoration; for cases have occurred in which the puriform matter, formed in the cavity of the pleura, has found its way by a small fistulous opening through the substance of the lungs, into a branch of the bronchiæ, and has been spit up in large quantities; the substance of the lung being quite sound, except this small fistulous canal. Cases have also occurred in which the fluid has found its way outwards, by an opening betwixt two of the ribs.

The following cases will illustrate the leading phenomena connected with this most important affection. In the first of them I had an opportunity of observing it at an early period, its progress being arrested by another disease, of which the patient died.

Case XIX.—A young man, aged 19, of a family which had suffered from consumption, was affected, in October 1819, with short dry cough; pain in the thorax towards the right side; sense of tightness in the chest; some constitutional disturbance, with restless nights; pulse little affected. The complaint had entirely the appearance of incipient phthisis. The symptoms had continued with little change for six or seven weeks, when in the middle of December he was seized with a violent pain in the right temple, and fell down suddenly, deprived of sense and motion. He soon recovered his recollection, but was affected with hemiplegia of the left side, and his speech was very inarticulate. He then lay with very little change for several weeks; during which time he was entirely free from his pectoral symptoms. In the middle of January he began to improve a little in his paralytic complaints, and as this took place his cough began to return, with pain in the right side. For three or four weeks he continued to have cough, sometimes severe, but his speech was quite distinct, and the motion of the left leg was greatly improved; the arm continued completely paralytic. On the 15th of February, he was again suddenly attacked with loss of speech, preceded by pain in the back of the head; and he lost the power of swallowing, which he never recovered. His speech returned in a very short time. From this time, the pectoral symptoms again disappeared and never returned. He was fed by means of an elastic gum tube till the 20th of March, when he died gradually exhausted. *Dissection.*—On raising the dura mater, a remarkable depression appeared, on the right hemisphere of the brain, on the anterior part of the middle lobe. This was found to arise from an extensive portion, which was broken down into a soft pulpy mass, without distinct suppuration and without fetor; it extended nearly the whole depth of the hemisphere. Adjoining to it, there was a small abscess, no larger than a bean, lined by coagulable lymph. There was a small quantity of fluid in the ventricles. On raising the brain a remarkable appearance was observed in the basilar artery. It appeared externally to be very much enlarged, but when cut into was found to be solid, its cavity being completely filled up for about an inch in length, by a firm white substance. Anteriorly to this portion there was a coagulum of blood in the artery. The other parts of the brain were sound. In the thorax there were extensive adhesions; and at the lower part of the right side, betwixt the lung and the ribs, and extending down upon the diaphragm, there was a considerable deposition of coagulable lymph, which was soft and transparent. The lower part of the right lung was rather firmer than usual; the substance of the lungs in other respects was quite healthy.

Case XX.—A man, aged 22, had been long in hospital affected with cough and slight mucous expectoration; a fixed dull pain in the left side of the thorax; and frequent pulse. He had afterwards diarrhœa, and died after a long illness in the last degree of emaciation. *Dissection.*—The left cavity of the pleura was full of a grey ropy

fluid, the pleura was thickened, red, and covered with a white friable exudation two lines in thickness. The lung was compressed, and its substance rather fleshy, but not otherwise diseased. *

Case XXI.—A young man had cough and pain of the right side, which was not severe but never gone; increased by exercise; febrile paroxysms. The cough was chiefly troublesome in the night; afterwards diarrhœa; wasting; anasarca; and death in three months, with extreme emaciation. *Dissection.*—Left lung quite sound; the right was attached to the ribs by recent adhesions, except at one place, where it was free from adhesion; and a circumscribed cavity was left betwixt the two pleuræ, which was lined by a thick coating of coagulable lymph, and contained about lb.iss. of purulent matter. The substance of the lung was a little firmer than natural, but crepitating. †

In the following case, the disease was complicated with tubercles:

Case XXII.—A man, aged 22, had severe cough, at first dry; afterwards with thick and white expectoration; general undefined uneasiness across the thorax. When he lay on the right side, his breathing was oppressed, when on the left, he was harassed with cough; so that he was generally obliged to sit up; frequent pulse; wasting; died in five months. *Dissection.*—Right lung much diminished in size, and full of tubercles with some abscesses; the cavity of the pleura full of a milky fluid, and the pleura covered with a thick exudation. Left lung hepatised, and with some tubercles not suppurated. ‡

Case XXIII.—A man, aged 30, after a pneumonic attack had cough, with white opaque expectoration; short oppressed breathing, and pain in the left side of the chest, which disappeared on the 28th day of the disease. The cough continued, and the expectoration became purulent and fetid, with night-sweats, emaciation, diarrhœa, and death in four months. *Dissection.*—Right lung adhering extensively, but healthy, except a small part of the inferior lobe, which was firm, with one or two tubercles. In the left cavity of the pleura lb.iss. of greenish fetid pus; pleura thickened and covered with a thick albuminous layer, with albuminous bands which crossed from one pleura to the other. Superior part of the left lung perfectly sound. The inferior lobe was compressed and flattened, but not otherwise diseased, except that two fistulous openings passed through it, and made communication betwixt the bronchiæ and the collection of matter in the cavity of the pleura. §

* Broussais, Histoire des Phlegmasies Chroniques. Tom. I.
† Ibid.
‡ Ibid.
§ Bayle. Obs. 43.

Case XXIV.—A man, aged 62, had pain in the chest and right side; oppressed breathing; frequent pulse and cough with expectoration, which was first mucous, then bloody, and then purulent; wasting; diarrhœa; and death in five or six weeks. *Dissection.*—Right lung adhering, except at one part on the right side, where there was formed by the two pleuræ a cavity lined with thick flocculent matter, and full of pus; pleura forming this cavity was in some places covered with an adventitious membrane a line and a half thick. Two thirds of the lung sound. The lower third was compressed and firmer than usual, and a fistulous opening three inches long passed through it, which admitted a female catheter, and made a communication betwixt the bronchiæ and the collection of matter in the cavity of the pleura.*

In a case mentioned by the Italian translator of Portal, after symptoms similar to those in the above cases, a tumour formed externally on the right side of the thorax, which burst and discharged abundance of pus, and in a fit of coughing air sometimes passed through it. There was hectic fever and great wasting, but the man gradually recovered. In a case mentioned by Dr Ayton Douglas, a tumour appeared in the same circumstances under the left scapula, which, during violent fits of coughing, was sometimes distended to the size of a quart bottle, and suddenly diminished again. The man had cough, with copious expectoration, which was purulent and fetid. The tumour subsided gradually, and disappeared after two years, and the man recovered.†

In the diagnosis betwixt this disease and phthisis, we must be chiefly regulated by the acute fixed pain, referred to a particular spot. But it must be confessed that the diagnosis is sometimes difficult, and must depend more upon minute attention to the history and phenomena of the case, than upon any particular symptom. When it assumes considerable activity, the diagnosis will be the easier; but as the pulse is often little affected, there is danger of mistaking the pain for a muscular affection, and thus allowing the period to go by, when it may be treated successfully. It is only in its early stage that it is the subject of active practice; in the advanced stages it is probably irremediable. The remedies are few and simple. General bleeding is often required; large and repeated topical bleeding, blistering, issues, rest, and cool spare diet, are the leading articles, with the aid of antimonials, opiates, &c. If the dangerous nature of the disease be overlooked at the commencement, and the case be injudiciously treated by tonics

* Bayle. Obs. 44.
† Edin. Medical Essays, Vol. VI. p. 127.

nd exercise, the error is likely to be fatal. A young lady, men-ioned by Dr Rush, had pain in the right side, with frequent hills and feverish paroxysms. She recovered by repeated small leedings. Next summer she was seized with the same symptoms, ut put herself under the care of another physician, who recom-nended country air and exercise. Under this plan she got radually worse; in autumn was confined to bed; and continued luring the winter affected with constant pain in the right side, ith inability to lie upon it, and died in May. A remarkable ircumstance in the case was, that she had neither cough nor requency of pulse, until a month before her death. On dis-ection the left lung was sound, the right adhered extensively; nd in separating the adhesions, a sac was discovered containing half a pint of matter. * In some of the cases, the paracentesis thoracis would afford the only chance of relief, but the remedy is very precarious, and the relief at best might be but tempor-ary. †

Sect. VI.—*Disease in the Posterior Mediastinum, and of the Glands connected with the Lungs.*

These affections deserve to be shortly referred to in connec-tion with this inquiry, though they are of much inferior import-ance in a practical point of view, to the diseases mentioned in the preceding sections. They produce dry cough, with some uneasiness in breathing, and various anomalous symptoms; sometimes pain, referred to the back, so fixed and severe, that it is apt to be mistaken for disease of the spine. A girl, men-tioned by Bayle, had dry cough, with wasting, and afterwards severe diarrhœa; she died at last of a short pneumonic attack. There was ulceration of the mucous membrane of the bowels. The lungs were sound, except the appearances of recent inflam-mation. The only other disease in the thorax was enlarge-ment of the glands at the root of the lungs. In another case by the same writer, there was suppuration in the anterior me-diastinum, complicated with disease of the lungs. In a case by Laennec, there was a cyst full of hydatids compressing the lung; and in one by Avenbrugger, there was a solid organized mass be-hind the left lung. In a case by Bayle, in which the lungs were extensively tubercular, there was also a tubercular mass

* Rush's Medical Inquiries, Vol. II. p. 112.

† See an important case by Dr Henderson, in the last number of this Journal, with most interesting remarks by Dr Hennen.

behind the lungs, and in contact with the vertebræ, several of which were carious from the pressure. I have seen, in a case to be mentioned afterwards, an extensive abscess in the posterior mediastinum, with caries of the vertebræ; but it also was complicated with disease of the lungs. In the first volume of the Medical Communications, a singular case is mentioned, in which ulceration of the lungs had passed backwards, and formed a communication with the œsophagus. I saw lately a man, aged 58, who had a mass of diseased glands on his neck, pain under the sternum, difficult breathing, and an acute pain referred to a small spot about the middle of the spine. After three months he had attacks of headach, with loss of speech, which at first occurred once in two or three days, and continued about fifteen minutes; afterwards they occurred every day, and continued longer; the longest was six hours. He had then double vision and numbness of the right arm. His breathing became more difficult, so that he often could not lie down, and he died suddenly in a fit of suffocation, about three weeks after the appearance of the head symptoms. The lungs were loaded with fluid, but otherwise sound. A chain of diseased glands passed down from the glandular mass on the neck, behind the trachæa and the lungs; the largest were behind the division of the bronchiæ. In the anterior part of the right hemisphere of the brain, there was a tumour the size of a nut, of a reddish brown colour and very firm. No other morbid appearance.

Sect. VII.—*Ulceration of the Lungs, of a healthy character, from Active Inflammation.*

Active inflammation in lungs otherwise healthy, frequently terminates by the formation of an abscess in the substance of the lung. The abscess, in such cases, is distinctly circumscribed, and the matter is contained in a soft sac of coagulable lymph. The pulmonic substance around the abscess is, in some cases, hepatised, in others quite healthy. Such an abscess may burst into the bronchiæ, or into the cavity of the pleura, and, in either case, if the collection be extensive, it may be speedily fatal. But it may also be spit up, and has frequently been so, to the extent of lb. i. or more, in a very short time after the first bursting. There is thus left a cavity like that of any other abscess, which may then take on a healthy action, and gradually heal. In this case, cough continues, with purulent expectoration, for a longer or shorter time, according to the circumstances of the case, but the expectoration gradually diminishes in quantity, and at last disappears, the cough also ceasing along with it.

The healing of such an abscess may be retarded by a variety of causes, and if the disease has been extensive, or the strength of the patient much reduced, he may sink under it, with all the usual symptoms of consumption. But it is a disease quite distinct from consumption, and one which, in a great proportion of cases, we may hope will terminate in recovery. I shall afterwards have occasion to refer to this subject, and to investigate, by examples, the difference betwixt this affection and the unhealthy ulceration which constitutes consumption.

Sect. VIII.—*Hæmoptysis and its Consequences.*

Facts and minute observations are wanting on this important subject, but, from the whole phenomena of the disease, it is probable that hæmoptysis ought to be viewed under several aspects, differing considerably from each other.

I. In such an organ as the lungs, in a great measure composed of vessels, it is not wonderful that derangements of circulation should take place, and that a vessel should occasionally give way. This may occur from general plethora, from occasional changes in the general circulation, as in women from suppression of the menses; and it may arise from causes affecting more immediately the lungs themselves. The most obvious and intelligible of these is, any obstruction to the return of the blood from the lungs to the left side of the heart. Such an obstruction existing while the full quantity is sent into the lungs from the right ventricle, a state of the lungs takes place, in some degree analogous to that of the brain in simple apoplexy, and we readily conceive how a branch should give way. The principal causes of this condition are diseases of the left side of the heart, and induration of a part of the lungs. Whatever other causes give rise to it, may prove causes of hæmoptysis, but in these there is considerable obscurity. We call it congestion, but this merely expresses the fact, without explaining any thing; the question immediately recurs, Whence this congestion, except from the organic causes referred to? It seems to proceed from a certain inflammatory state of the substance of the lungs. Hence arises the genuine acute hæmoptysis, which is nearly allied to peripneumonia, and requires the same treatment in the most decided manner. Under this treatment we expect it to terminate favourably, in a great proportion of cases. The breach of continuity which has taken place is equivalent to a wound; this may either heal, or may advance to suppuration, and pro-

duce purulent expectoration. If this take place in lungs otherwise sound, it may terminate favourably, like the healthy ulceration already referred to; if it take place in unsound lungs, the ulceration will be unhealthy, and will probably lead to consumption.

II. There seems to be a modification of hæmoptysis, differing materially from the former, though assuming an active form, in which the hæmorrhage is from the vessels of the bronchial membrane. It appears to be preceded and attended by less dyspnœa and oppression of the thorax than the former, and rather by rawness and tenderness, with a sharp irritating cough, having the characters of the catarrhal or bronchial inflammation, as the former has of the peripneumonic. The blood is generally in smaller quantity, and mixed with frothy fluid in the early stages; afterwards with the expectoration proper to the inflammation of the bronchial membrane. In several of the cases formerly described, we have seen it combined with the disease of the bronchial membrane; and a case, described by Portal, fixes still more distinctly the existence of this source of the hæmorrhage, without connection with any disease of the lungs. A young man was liable to attacks of hæmoptysis, which occurred generally several times every month. After this had continued for two years, he died of an affection of the brain. The lungs were found perfectly sound; some of the bronchial glands were much enlarged, and covered with blood-vessels. Some of these vessels were distinctly traced terminating by open extremities on the surface of the bronchial membrane, and appeared evidently to have been the source of the hæmorrhage. This bronchial hæmoptysis is nearly allied to, and perhaps usually accompanied by, the inflammation of the bronchial membrane, and may be followed by the symptoms of that affection in its chronic state, with puriform expectoration, and many of the appearances of consumption. But it is an affection quite distinct from consumption, and affording a much more favourable prognosis.

III. The two former affections are more or less acute diseases. There seems to be a third modification of hæmoptysis, which is not in any degree acute. It appears to arise from the immediate rupture of a vessel, in consequence of disease of its coats, without the peripneumonic congestion of the first species, or the bronchial disease of the second. The patients are generally pale, feeble, and scrofulous-looking, and the pulse weak and slow. It may probably arise either from the pulmo-

vessels, or from the bronchial membrane, and, in both s, seems to be connected with tubercular disease. In the ier case, therefore, it is very likely to be followed by con- ption; in the latter, by the chronic disease of the bronchial ibrane in its most unfavourable form.

7. A fourth modification arises from a vessel giving way previous ulceration in a case of true consumption. It is nguished by being preceded by purulent expectoration. It ten immediately fatal, and at best admits only of palliative ment.

o the various affections resembling consumption, which been referred to, we ought, perhaps, to add some re- kable cases, in which similar symptoms were kept up by ex- eous substances lodging in the bronchiæ. A man, men- ed by Mr Howship, had violent cough, with copious ex- oration, and frequent hæmoptysis; constant fixed pain in right side of the thorax, and extreme emaciation. After months, when his case was considered as hopeless, he ught up, in a violent fit of coughing, a small nail, $\frac{7}{8}$ of an in length. Eleven or twelve years have elapsed since this t, during which he has enjoyed tolerable health, though le at times to cough and hæmoptysis. He was sensible of nail slipping down his throat, while he held it in his mouth n at work, immediately before the commencement of his ss.* A man, mentioned by Mr Arnot, after suffering se- ly from cough and dyspnœa for more than a month, ught up a spongy piece of bone, the size of a hazel-nut, and well speedily.† In the London Medical Journal for 1786, Holman mentions a man who had severe cough, purulent ectoration, mixed with blood, hectic fever, profuse night- ats, and diarrhœa. After these symptoms had continued he was reduced to a state resembling the last stage of con- ption, he one day spit up a pint of blood, and soon after ghed up a piece of bone, measuring $\frac{6}{8}$ of an inch in length, weighing six grains. His alarming symptoms ceased al- t immediately, and he was soon in perfect health. He re- nbered having swallowed a piece of bone fifteen years before, ch stuck in his throat, and was pushed down by a probang. m that time he had been subject to cough, which had gra- lly increased. A woman, mentioned by Bartholinus, brought

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* Howship's Obs. in Surgery and Morbid Anatomy, p. 222.
† Edinburgh Med. Essays, Vol. VI. p. 115.

up, under similar circumstances, a small kernel of a nut, and got well immediately. The German translator of Portal mentions a woman, who, after being considered as phthisical for some time, brought up, in a violent fit of coughing, a stony concretion, half an inch long, and soon after got well. In several cases referred to by Laennec, hydatids were expectorated, with relief of pectoral symptoms of some standing; and Borelli mentions a gentleman, who recovered from a state of extreme danger, by coughing up a small piece of nutmeg, which had slipped into the larynx, and had been the cause of complaints, which were considered as consumptive.

These observations, on *diseases resembling consumption*, I submit as a slight and imperfect outline of a most extensive subject, in the hope that they may serve to show the importance of it, and to direct to it the attention of those better qualified, both to correct the outline, and to fill up the details. The whole is at present in the most rude and imperfect state, and that most important branch of it, the diagnosis, is entirely in its infancy. But it is one of the most interesting subjects that can occupy the attention of the British practitioner, and his utmost exertions will be amply rewarded, if any degree of precision can be introduced into the pathology of consumption. At present, it is certainly vague and unsatisfactory in the greatest degree, while, in the British Islands alone, the annual mortality from consumptive diseases is from fifty-five to sixty thousand.

III.

Description of a Variety of Carbuncular Furuncle. By John Fosbrooke, Surgeon.

There is a cutaneous disease, which, for the last three years, has been sporadic. Its origin is known to me as being coincident with the appearance of the great epidemic, but as I have observed it in parts of the kingdom remote from each other, some of which have been traversed by it, and others not, I cannot infer that any relation subsists between them. It has not yet, within the compass of my reading, been found on record,

non Phlegmon, and if it makes an approach to any species, to that which the vulgar term the blind *blane* or boil. I observed this latter disease very incidental to persons ght up to marine employments, where the irritation of salt r, and constant evaporation on the surfaces of sores and s, is often producing it, but it is assimilated only in its slow n. I consider it confined to the skin and subcutaneous ıres, and, in most instances, I have not observed that any ly indisposition was at all prior to it, except some general rbance of the digestive functions. Its universal diffusion lisposed some intelligent individuals to think that it affected liar idiosyncrasies, by contagious properties; but whilst tious propagation is liable to so much scepticism, I would be thought presuming to vouch any such assertion without ng evidence.

he features of this little disease are a dark red and de- sed swelling,—that kind of flat convexity, which is usual- escribed by the term lenticular; the inflammation is in- e and concentrated; and if these little tubercles undergo ure in the early stage of suppurative inflammation, a tran- ent serum is effused, probably coagulable lymph, or, in e chemical language, coagulable albumen. It is slow in ıration, and pus first appears in a very minute yellow ele- on in the centre, the surrounding space circumscribed by inflammatory process still continuing, in a slow state of that on, particularly hard and solid. The quantity of matter harged is not very great, and, in most cases, where the in- mation is not very obvious on the surface, it appears to act igorously beneath, that the cellular membrane partakes of disease, and comes away in a small eschar. A redness is

a member of a much more important class; and if I had fortitude to argue in a style of ingenious hypothesis, I should call it a degenerate variety of true carbuncle. All this family are exceedingly alike, in the manner in which they take their rise, progress, and decline, and convey sensation. Of all authors I have found Ambrose Parey (fol. edit.) the most accurate describer of carbuncles, and I fancy that he had seen all kinds. His symptomatology of species of superior magnitudes, and from that circumstance more malignant, would define this disease with sufficient *vraisemblance*, allowing for its comparative insignificance of degree. Speaking of the "hot burning plague spot," of which Dr Bateman has given an engraving, he says, "In the beginning, while the bubo is breeding, it makes the patient to feel as if it were a cord or rope stretched out in the place, or a hardened nerve with pricking pain, and shortly after the matter is raised up as it were into a knob, and by little and little it groweth bigger, and is inflamed." (p. 531, fol. ed.) This hot, throbbing, and lancinating pain, with intermission, has been compared by the vulgar to the operation of slow burning, and the medically informed know it to be the true carbuncular sensation. There is a contraction, as it were fibrous, and a tearing of this asunder, which renders locomotion painful. It seems to attack particular regions—those, too, which are invariably the most subject to the carbuncle, called in the London hospitals the chronic carbuncle, viz. the sides of the spinal column, the sides of the neck, the nates, the upper and inner part of the thigh, in the course of the inguinal glands. Having been myself the subject of it in the last mentioned situation, I found myself tremblingly alive to every contraction and extension of this extremity. But whether in parts of voluntary motion or not, the incommoding concomitants of heat, &c. are the same, so that the patient generally finds it "dulce reponere desiderato lecto." As to any constitutional effect that it has upon health, or any sympathetic disorder that might be expected to befall the digestive organs, I have observed neither in many instances, but nervous irritation solely.

As to the causes of this disease authors have considered the common furuncle produced by the state of the stomach. Plenck even considered styes as thus originating. Hunter observes of the chronic carbuncle, that he never saw but one patient with it in an hospital, because it attacks those who live well, and who are beyond the middle age. Now, the kind which I have described attacks the young and middle-aged, and those certainly who live well, preferentially. But if I judge by Mr Hunter's rule, that the stomach should be primarily affected, if any af-

on is thence derived, I must be decidedly of a contrary be-
There is strong presumptive evidence for thinking, that
node by which diseases generally called infectious are com-
cated is precisely analogous to that by which this attacks
onstitution. According to Pliny, the carbuncle was first
rted to Rome from the province of Narbon. The diagno-
sufficiently easy, and no man has ever given it better than
Hunter, (On the Blood. *) He observes, that the boil has
of *true* inflammation than the carbuncle. French authors
guish carbuncular eruptions which attend the typhus gra-
and pestis, from the idiopathic, by the terms benign and
nant, always situated on the skin or subcutaneous mem-
. They discriminate carbuncle by the " colore vinacée,"
he boil by the " colore violée." The deleterious influence
e tissue with which it communicates is thus in a very na-
l mode described by Delpech. † " Il est probable que du
ent que la tumeur est formée, la mort de tissu cellulaire
la peau est *irrevocablement* decidée!" A shrug of the
lders is the only full stop to this. As to the situations most
to this disease, they seem to be those which are most dis-
from the centre of circulation, and consequently oppose
east resistance to disease and death. In these parts, cellu-
embrane is certainly most intermixed with muscular tex-
and from this it might be inferred that all carbuncle com-
ed in a morbid disposition of this tissue; but I do not ob-
that the usual phenomena of cutaneous diseases would
out any such origin or analogy, and other evidence is re-
d. The colour differing from that of erythema is proba-
wing to the mode of action excited in the vessels; for if it
nerely gangrenous, and not specific, it would first be of the
ion hue.

ith regard to treatment, I cannot advise an early exonera-
of the central fluid by the abscess lancet; the knot of ves-
hich are throwing out an effusion in the early stage, are
y irritated into increased action, and parts in such a state,
ding to the common laws of surgery, are not exactly likely
ume, if wounded, a healthy action. The greatest extent
ppuration is a spot in the centre. In the common carbun-
elpech, who deprecates incisions, tells us, that M. Dupuy-
had observed a prompt crucial incision to stop the progress,
aused the " entanglement des parties enflammés," to disap-

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p. 227, 223. Not the same in the 8vo edit. of 2 vols.
Delpech, Precis Elementaire des Maladies Reputés Chirurgicales, 1816.

pear. I once saw a practitioner apply the lunar caustic to the suppurative circle, but without much mitigation of pain in the part, or ultimate interruption of the natural progress of the disease. Leeching I have not observed. As I have kept in view the analogies of this disorder, with intention to assimilate the principles of practice, as well as pathology, I shall here mention some observations of Parey. He suggests vesicatories in proximity to the carbuncular tumours. "A vesicatory applied in a meet place *below* the bubo profits them very much, but not above." Of cataplasmal applications, he observes, "If presently after the beginning there be great inflammation, with sharp pain, as it often happeneth, especially when the abscesses be of the kind of carbuncles, we must abstain from those remedies that are hot and attractive." This advice is founded on certain vague apprehensions of the humoral pathology; but I must remark, that when stimulated by plasters to suppuration, the glands discharge a thin and quickly maturated fluid, which is not attended with any resolution of the abscess.

From reading an old German work, which I have now totally forgotten, on the use of the sulphuric acid in some cutaneous diseases, I was induced to try it in these cases. It is my practice to give the diluted acid (P. L.) in doses of twenty minims, increasing them by gradual augmentations to one drachm and two drachms in each dose, twice a day, very largely diluted. If the first dose is half a drachm to a robust subject, it may be increased five drops every day in each dose. This may be called administering acids *pleno rivo*, but let us reflect on our improved habits in using the alkalies, as also the dilute nitric acid. The most immediate influence of this remedy is, according to the report of the patient, and my self experience, (for I did what is considered very bad taste, I first tried the experiment on myself,) a *deadening* of the pain, and a gradual absorption of the swelling without suppuration. A learned physician, to whom I communicated this observation, and from whom I have received the communication of the best knowledge I ever acquired from any source but self exertion, acquaints me that there is an aptitude in the dilute acid, largely given, to produce uncontrollable diarrhœa, a proof of powerful action on the portal viscera; but not having encountered this check, I merely mention it to guide the experiments of others, and to anticipate any adverse surprise at such an accident. In this case diluted nitric or nitro-muriatic, in doses of twenty minims, may be used; but it is to be recollected, that the bases of these acids differ from that of the sulphuric, and, according to my own observation, they are comparatively very feeble in their influence.

Some men dread spasmodic contractions of the stomach, either anti-peristaltic or circular; but such fears would be totally imbecile, unless the organ we have to act upon is aged, or very susceptible from disease. I have some reason to surmise that the sulphuric acid is a powerful solvent of cutaneous disease, and is remarkably speedy in its action upon the economy of the cuticular system.

P. S.—The unremitting attention which I have paid to the subject of vaccination, and the tribe of diseases implicated in that subject, has led me to believe that transformations, hybrid actions, and degeneracies, are constantly worked, so as to effect variety in cutaneous diseases, and to dilute or heighten malignity. It may be inquired in which manner does this medicine operate? How by invigorating the system by stimulants and alterative tonics, do we produce that tone which diminishes remote, irritable, and chronic states of inflammatory action?

New Kent Road, London, Feb. 20, 1820.

IV.

Cases of Small-Pox, after Vaccination, which occurred in one Family. By T. Owen, Surgeon to the Welsh Charity.

Elizabeth Collett, aged four, had been vaccinated when an infant, but the scar on her arm is slight.

On the 15th of December 1819, an eruption of pimples took place on the face and different parts of the body, accompanied with a rash; and this had been preceded by fever and headach for about three or four days.

When I first saw her, which was on the 17th, the third day of the eruption, the pimples on the face contained lymph, and were a little depressed. She had much fever, white tongue, frequent pulse, and redness of the face.

18th, or fourth day of the eruption.—The pimples are gradually filling, and the fluid in them is somewhat opaque. The fever is less.

19th, or fifth day.—The fever is much abated; the eruption is now completely full of pus; the pustules increase in size, and are globular.

20th, or sixth day.—The fever has quite subsided; the face

is a little swelled; the pustules are full of white matter, with some surrounding inflammation.

21st, or seventh day.—Almost all the pustules are dry and horny, and of a straw colour.

22d, or eighth day.—Such of the pustules as were not dry and horny yesterday are now becoming so.

23d, or ninth day.—All the pustules are now dried up and brown.

In a few days, the scabs fell off, and left an elevation of the cuticle, which continued some time. Three pustules, near the angle of the mouth, were confluent, but none of the pustules left scars.

I had some doubts, at first, whether this was not the chicken-pox; but, from the subsequent stages of the disease, I was convinced that it was the small-pox, and said so at the time; and another medical practitioner, who saw the child, was of opinion that it was small-pox.

George Collett, aged 11, complained, on the 26th of December, eleven days after the appearance of the eruption on his sister, of pain in his head and back, with a sense of weariness. When I first saw him, on the 28th, he had pain in his head, and also a very severe pain in the lower part of his back; his eyes were red, and his face was flushed; he was drowsy; his pulse was frequent, and his tongue white. He likewise complained of pain in his belly, which was tender on pressure. He was ordered some purging medicines.

29.—He passed a restless night. The symptoms as yesterday, with the addition of great stupor. The opening medicines were persisted in; and, in the afternoon, he had copious evacuations, which relieved his bowels; and he did not afterwards complain of pain in them, nor tenderness on pressure.

30.—He had a restless night. The stupor has increased, and he is sometimes delirious; the fever continues unabated; his eyes are red, and there is a redness and fulness of the face; red pimples have appeared on the stomach and bowels, and other parts of the body, accompanied with a rash; he had a convulsive fit about three in the afternoon. When I saw him, which was after it was over, he was stupid, and his pulse was full and frequent. Four leeches were applied to his temples. His face afterwards became less swelled and red. He was often sick.

31.—A great many more pimples came out this morning, all over his back, accompanied with a rash. They were elevated and hard. There was no abatement of the fever, and the pulse was very quick. He is often sick, and vomits some dark-

coloured mucus. He bit the tip of his tongue, during the convulsive fit, which made it bleed. His tongue and mouth are covered with a dark coat, and there is an accumulation of saliva in the mouth. The belly, back, and limbs are this afternoon covered with distinct pimples and a rash, accompanied in various parts with slight ecchymosis. The stupor and redness of the eyes continue, and he is at intervals delirious. He passed blood with his urine, and his stools were tinged with blood. In the evening, a greater quantity of blood came away with his urine, as well as with his motions. In the night, his pulse became more frequent and weaker; mucus collected in the trachæa; and he died about three in the morning.

Dr Lister, who was consulted in the afternoon of the 31st, gave a decided opinion that the disease was the small-pox; and recommended that all the persons in the family, who might be liable to take the small-pox, should be vaccinated or inoculated, in order to give them a chance of security against the infection. There was immediately after death very great ecchymosis. He was vaccinated when an infant, but the scar on the arm was slighter than in any of the rest.

Mary Ann Collett, aged 12, was not well on the 27th of December. On the 29th, she had a slight fever, white tongue, and a sense of languor.

30.—An eruption of pimples took place on the face; she has not much fever.

31.—The pimples on the face increase in size; a few have appeared on the hands and arms. On pressure, they are hard like seed.

Jan. 1.—The pimples increase in size, and contain lymph.

2.—The pimples are filling with opaque matter; there is no fever.

3.—The pustules are globular, and surrounded by slight inflammation; the face is a little swelled.

4.—The pustules are larger than they were yesterday, and full of pus.

5.—The pustules are becoming dry and horny.

6.—The pustules which made their appearance last are getting dry and horny.

Dr Ashburner, Physician to the Small-Pox Hospital, saw this case when the pustules were full of pus, and gave a decided opinion that the disease was the small-pox in a modified state.

Henry Collett, aged 14, has had a slight headach, and has complained of heaviness for about four days.

Jan. 1.—Red pimples appeared on the face to-day.

2.—More pimples have made their appearance; there is one on the hand larger than the rest; he has not much fever; the tongue is a little white; and he has a slight giddiness.

3.—The pimples increase in size; they are hard on pressure, but their apices contain opaque fluid; he is not much indisposed.

4.—The pustules are gradually coming forward.

6.—The pustules on the face and hands contain pus, with a slight surrounding inflammation.

7.—The pustules begin to get dry and horny.

He was vaccinated when an infant. The scar on one of his arms is larger and deeper than those in the arms of his brothers and sisters.

Dr Ashburner, who saw him at the same time with his sister Mary, pronounced the disease to be small-pox in a modified state.

He was vaccinated again on Jan. 1, in both arms. A slight inflammation appeared, but no vesicles.

John Collett, aged 10.

Jan. 1.—He is slightly indisposed.

2.—He had a convulsive fit in the night. This morning his pulse is frequent; tongue white, accompanied with a slight headach and pain in his limbs.

3.—Two or three pimples appeared on his upper lip, and a few on the back; the pulse is quick, and his tongue white.

4.—The pimples on the lip are not larger than they were yesterday; his pulse is not so quick as it was yesterday, and he is more lively.

5.—There are a few pimples on the back, but they are drying up without forming matter.

6.—He is quite well.

He was vaccinated when an infant; the scar on the arm is slight. He was vaccinated again on Jan. 1, without producing any effect.

Richard Collett, aged one, who was vaccinated when a few months old, escaped the infection. The scars on the arms are very slight.

He was vaccinated again on Jan. 1. 4. The arms are inflamed.—6. Very small vesicles are formed, which, without increasing in size, dried up in a few days.

Little doubt, I think, can be entertained that all the above

mentioned cases were cases of small-pox, and that Elizabeth Collett communicated the disease to her brothers and sisters. It may, perhaps, be doubtful whether George Collett had had his constitution affected by the vaccination which he had undergone in his infancy, and which had left a slighter scar than was left in any other of these cases; but it seems probable that the small-pox was rendered mild in the other cases by the previous vaccination.

London, Chancery Lane, March 6, 1820.

V.

On the Disposition to Diseases in the Liver and the Lungs, induced by the influence of Climate on those Organs. By J. Macdonnell, M. D. Assistant Surgeon, 55th Regiment.

Few pathological facts are, I believe, more generally admitted, and perhaps less satisfactorily accounted for, than those arising from the influence which climate exerts over the human frame. I allude particularly to that susceptibility of disease which affects the liver and the lungs; the one in warm, the other in the colder climates. I shall here endeavour to explain my views on this subject, and if, in so doing, I shall deviate from the beaten track, and venture to dissent from old and received opinions, I must entreat those who will favour this paper with a perusal, to withhold their judgment, until the context is before them.

I certainly experience considerable diffidence in assailing theories, however vague and unsatisfactory I may deem them, hallowed and established as they have been by the hand of time and the sanction of ages. Still a wish to promote the discussion of a subject so highly interesting, as well to mankind as to the profession in general, but more especially to that portion whom duty frequently calls from one extreme of climate to another, induces me to submit, what is, I believe, a novel view thereof. How far I have succeeded, will be best appreciated by those who have enjoyed the good fortune to unite greater ability with more extensive practical information.

I am disposed to attribute the susceptibility of disease which originates from climate, to the influence of temperature on a

very important operation highly essential to existence, I mean the removal of carbon from the blood.

As the nourishment, growth, and existence of all animals, depend chiefly on the quantity and quality of aliment received into their stomachs, so all animals are endowed with appetites, which stimulate them to seek food, and with powers to guide them in the selection. The food, by the various processes of mastication, trituration, and exposure to the gastric juice, is converted into a pultaceous homogeneous mass, and from this mass the chyle is taken up by the lacteals, and conveyed by the thoracic duct to the subclavian vein of the left side, where mingling with the blood, it enters into the circulation, and is distributed to the utmost extremities of the corporeal system. The remaining portion of the food passes downwards through the intestinal canal, and is evacuated as excrementitious.

But, notwithstanding the power of election which the lacteals possess, certain matters unavoidably enter the circulation whose presence may be noxious, or at least useless; while, at the same time, the animal is incessantly undergoing changes, in consequence, as well of the deposition of new matter, as by the absorption and removal of the old; hence, it follows, either that the system must become surcharged to destructive accumulation, or be endowed with adequate powers of elimination; and, accordingly, we observe provision for these purposes, in the several organs destined to the separation and evacuation of injurious effete or useless matter, as the urinary system, the lungs, the skin, and I will add the hepatic system; for, to this object, and not in order to exert any direct influence in the process of chylification, I suspect the secretion of bile will be most justly attributable.

The size and situation of the liver, the peculiarity of its circulations, and of the fluid which it secretes, could not fail to attract the attention of anatomists and physiologists in all ages. The spleen enjoyed for a considerable time the "divisum imperium," until modern anatomy detected the errors of the old, and left the world in doubt as to the real function or utility of that viscus; while it has established those facts relative to the liver and the bile with which we are now acquainted: but I apprehend we have received with too implicit a facility, and adopted without sufficient circumspection, the opinions our predecessors have offered on the use of bile in the animal economy.

Although it has been admitted by all parties, that bile is essentially instrumental to the process of perfect digestion, scarcely any two agree on the mode whereby it exercises this necessary instrumentality. Some rely on its diluting and lubri-

cating properties; some on its appropriate stimulant; some supposed that its application as a chemical agent to the intestinal contents, prepared them better for the action of the absorbents; while others attributed its advantages to certain presumed antiseptic qualities, whereby it resisted that tendency to putrefactive fermentation, which, as was apprehended, would have otherwise resulted. I shall first briefly notice these several opinions, and then submit my own on this subject.

The viscidity of bile, and its proportionate small quantity, render it a very unimportant adjunct as a diluent to the liquid ingesta, to the saliva, the gastric, and pancreatic juices, as well as the fluid poured out by the exhalants all along the course of the intestines, (a fluid, which, by the way, is derived from that identical portion of the blood that returns by the portal route.) Indeed, I believe, that very few who have made practical observations on the appearance of the egesta of patients, generally denominated bilious, will be disposed to place much reliance on the lubricating or diluting properties of the bile.

When it is asserted that bile acts as a stimulus to the intestines, exciting them to a due exercise of their functions, healthy bile must of course be understood. It must be admitted that a fluid so acrid as bile, will cause considerable excitement and irritation, in parts unaccustomed or unadapted to its presence; but the same may be said with equal justice of the tear, which not only does not offend but protects the delicately sensible conjunctiva; and of the urine, whose presence causes no injury to parts habituated to its contact, (for the contractility of the bladder responds not to the quality but to the quantity of its contents,) yet either of these fluids, suffered to remain on inappropriate parts, commits ravages, equal at least to those consequent on the presence of bile under similar circumstances. Besides, it is a well known law of the animal economy, that matters really stimulating, nay, even noxious, lose by repeated application much of their power. Thus we daily experience the necessity for augmenting the doses of the most narcotic, as well as the most drastic medicines, and surprising quantities of even the most violent poisons have been taken with impunity, in consequence of gradually habituating the constitution to their presence. Cholera and icterus have been both adduced in evidence of the stimulating properties of bile, the one positively by its excess, the other negatively by its absence or deficiency. I need not observe how unjust must be any conclusion, relative to bile in its healthy state, drawn from those circumstances, observable when the hepatic system labours under the influence of disease. Although in cholera the alvine discharges evince a considerably increased

quantity of bile in the intestines, still they are frequently unaccompanied by fecal matter, which, however, appears when the disease is on the decline. Would this be the case if bile was the appropriate stimulus to the peristaltic motion?

In icterus, Dr Pemberton, on whose testimony we may certainly rely, (in his Treatise on the Diseases of the Abdominal Viscera,) asserts that the bowels are as often open as otherwise.

Neither of these diseases can therefore be adduced in proof that bile is the appropriate stimulus to the intestines. I would rather hazard the opinion, that the unusual increase or deficiency of bile in the intestines, is not the cause, but the symptom of disease in the abdominal viscera; and that any torpidity of the bowels in icterus, as well as the retention of the feces in cholera, arise in both cases from general derangement of the entire system. The sudden and decided relief afforded by a free use of the lancet, in that form of cholera which so lately nearly depopulated parts of Southern Asia; and evidences of highly inflammatory diathesis, denoted by the appearances of blood taken from several of his jaundiced patients, by Dr O'Reilly, in the hospital of the 55th regiment, tend to confirm my opinion.

With regard to the chemical agency of bile on the intestinal contents, or, in other terms, its chylopoietic action, a short examination of the organs wherein this function is carried on, will satisfy us of its inefficacy.

The chyme on passing out of the stomach enters the duodenum, whence it proceeds through the jejunum and ileum to the greater intestines. In its passage through this canal, it is made to present constantly fresh surfaces to the patulous orifices of the lacteal absorbents, which minute vessels select that portion of the entire mass suitable to the nourishment of the animal. The duodenum more particularly, and the jejunum, (especially at its superior portion,) possess the most efficient means for promoting this object; for, not only are the absorbing orifices much more numerous in proportion to the extent of surface in these parts, but they are likewise, especially the duodenum, furnished with valvular duplicatures of the internal membranes, thereby affording considerable further extent and addition to the absorbing surface. It is to be presumed, therefore, from this structure, that absorption is most vigorously carried on in these portions; and that if bile were indispensable to chylification, it would commence its operation immediately on entering the duodenum. The contrary is, however, the fact, as observed by Dr Saunders, in an experiment per-

ed on a dog, when he distinctly states, that " the bile was passing along quite inert, and not at all to blend with limentary mass ;" a fact which is, I conceive, in itself suf- nt to overturn any hypothesis founded on the chemical n of bile.

though heat and moisture conduce much to the putrefac- fermentation, I rather think that the preservation from pu- ency of the intestinal contents, is more fairly attributable e removal by absorption of that portion most applicable to tion, and most susceptible of the putrefactive process, to- er with the absence of atmospheric air, than to any antisep- roperties really existing in the bile.

/hat, then, it may be asked, is the use of the bile? and function does the liver, with its complicated apparatus, on? I ask, in turn, what results attend the phenomena spiration, and by what function do the lungs, with their as plicated apparatus, contribute to the preservation of animal ence? I answer both questions at once, thus;—that they ve from the circulation certain properties or matters, which, ng fulfilled the objects for which they were previously de- ted, are, in consequence of the changes the animal constant- ndergoes, resumed, in order to be succeeded by depositions esh matter, and must, of course, be now rejected as excre- titious. The skin, the kidneys, the lungs, conspire to this t; have we not, therefore, analogy in favour of the sup- tion, that the liver harmonizes with these organs, and cor- onds with them in its functions?

Vo sooner is the healthy action of any of these organs im- ed, than the general system shows evident symptoms of the rruption. Irregularity in the secretion, or undue retention rine, cause a urinous taste and smell on the saliva, in the th, and sweat. The effects of obstructed perspiration are ifold, and often destructive. Impaired or obstructed re- ation causes lividity of countenance, with a sense of suffo- on, and frequently terminates in death. And irregularity he secretion or transmission of bile, is as certainly denoted a sallow or yellow colour of the skin, bitter taste, and all e other symptoms generally considered bilious.

As might naturally be expected, bile has been often subjected hemical investigation, but as many of its analyses were con- ted with a view to establish certain preconceived theories, find as many different results, as there have existed various othesis. All, however, admit, that the chief peculiar ingre- nt consists of a bitter resinous principle, suspended in mu- ; but as resin is carbon in a very pure state, we may fairly

infer, that the chief function of the liver is to abstract carbon from the blood, and that it co-operates with the lungs in this highly important function; a correspondence farther indicated by the circumstance, that both the liver and the lungs exercise their action upon venous blood. We have, therefore, two organs coinciding in function, so far as relates to the abstraction of carbon; and, as I shall prove that the lungs are, alone, inadequate to the uniform abstraction under the varieties of temperature, we must look upon any arrangement, tending to preserve uniformity in so important an operation, as consonant to the general rules of animated organization.

The due secretion of bile, and its freedom of exit, are so necessary to the well-being of the animal, that nature has been equally solicitous as for the kidneys or the lungs, to protect the liver from external force or injury, as well as to afford a free escape to their several secretions; and although the situation of the mouth of the ductus-communis in the duodenum appears to have sanctioned received opinions, I believe that impartial consideration will discover in this formation no more than the most convenient route, in the same manner as the urethra of fowls is placed in the rectum, for the convenience and greater perfection of the animal.

The symptoms demonstrative of bile in the stomach are well marked, and always indicate considerable distress of that organ. The gall-bladder seems an appendage, intended to obviate the frequency of that distress; for, as during the plenitude of the stomach no ingress from the duodenum is practicable, and when the pylorus relaxes, the passage of the aliment downwards prevents ingress, so the periods of repletion and subsequent discharge seem not only the most suitable for excluding the bile from the stomach, but also the most favourable to its perfect elimination. Accordingly, at these periods, but especially during repletion, the gall-bladder being pressed upon, discharges the bile which had been accumulating during inanition, and the bile now entering the duodenum in full flow, passes inertly along the canal, accustomed to and destined for its presence, to be thence expelled, together with the fecal excremental matter.

If we may be allowed to argue from effect, is it not more probable that the benefit arising to bilious habits, from the use of purgatives, depends more on the removal of this noxious fluid, than any direct influence they may have upon the liver? for, although purgatives, by stimulating the muco-secretory vessels of the intestines, not only diminish the volume of blood returning by the porta circulation, and, of course, prevent hepatic

congestion, but likewise, most probably, prepare that fluid for more healthy elaboration, still the positive removal of this noxious fluid is the immediate and most obvious advantage. I wish, however, to be understood to speak of those cases when a redundancy of bile is known to exist with a torpidity of bowels, for I will not presume to assert that the liver, no more than the lungs or the kidneys, is exempt from a certain degree of specific action, determined to those viscera by medicines received into the stomach, although I cannot account for such determination.

Having now exhibited what I conceive the most rational view of the functions of the liver, and having attributed to the bile a use which appears most analogous to the other secretions of the trunk, I shall proceed to the ultimate object of this paper, namely, to account for that tendency to disease which the liver assumes in warm climates, and that of the lungs in colder ones.

When the capacity of the thorax is increased by the appropriate action of its muscles, the lungs also dilate, and a quantity of air proportioned to the size of the thorax, and its capability of enlargement, rushes into the lungs. The air thus inhaled enters the minute air cells, where it comes into juxta-position with the blood diffused through the parenchyma, by means of the pulmonary circulation; absolute contact is only prevented by the most delicate interposed membrane. Here the blood and air become mutually decomposed; the former, from a dark purple, assumes a bright red colour, while the returned air is considerably altered from its previous constitution, 14 parts only out of 27 of oxygen gas being now present, while the remaining 13 parts are withdrawn, and converted into carbonic acid gas. Now, as these alterations are attributable to the process carried on in the lungs, we must conclude that the new arrangement results from the combination of carbonaceous matter existing in the blood with a portion of the oxygen of the atmosphere; a conclusion farther warranted by the well known affinity of those substances: but as this combination must be subject to the laws of elective attraction, and as the relative proportions of oxygen in the atmosphere are uniform and invariable, it follows that, under equal circumstances of temperature and barometrical pressure, equal portions of oxygen will combine to form carbonic acid gas, and, consequently, equal portions of carbon are abstracted from the blood.

The atmospheric air is an elastic fluid capable of expansion and diminution of volume, according to the elevation or reduction of temperature; equal volumes, therefore, contain at vari-

ous temperatures various ponderable quantities of its ingredients; thus, if 100 cubic inches, at the temperature of 60°, weigh 32 grains, and the oxygen gas thereof weighs 8 grains, a temperature that would increase the volume to 200 cubic inches, or double the former, would also affect the oxygen gas, by diffusing it throughout the increased volume, and, consequently, 100 inches of atmospheric air, at the higher temperature, would contain but 4 grains of oxygen, being only half the quantity contained in an equal volume, but at the lower temperature.

Notwithstanding that the lungs admit equal volumes of air in all varieties of temperature, still, as the positive quantity of oxygen depends on the varieties of expansion consequent on temperature, it varies according to the degree of that temperature, and, of course, the quantity of carbon removed also varies. Now, as any considerable irregularity in the removal of carbon is incompatible with health, or even with existence, nature must have provided some vicarious outlet, in order to preserve the balance, and obviate the consequences emanating from those interruptions to which the removal of carbon, by the process of respiration, is liable; and this outlet, I venture to assert, is the liver.

The epicures of ancient Rome, and the French gourmands of the present day, appear to have been practically aware of the effect produced, by respiring in heated air, upon the liver; as the former, in order to procure one of their principal luxuries, (the enlarged liver of a goose,) fed the animals in heated apartments, and the latter manage Muscovy ducks in a similar manner, with the same intention. The bird is prevented from removing, by nails driven through the interdigital membranes, into a board, and then placed opposite a strong and constant fire, where it is compelled to inhale heated, and of course rarified, air; considerable action of the respiratory muscles, with gasping, ensue, but these symptoms gradually subside, and, at the same time, the liver gradually increases, to the almost total displacement of the other abdominal viscera.

If, therefore, I have satisfactorily proved that the liver co-operates with the lungs in the process of decarbonation—and if it appears, that, in uniform temperatures, these organs act with regular, steady, and uniform results,—it follows, that any change in the temperature of the atmosphere must induce a corresponding change in the balance of their functions, and an increase or diminution in their respective secreting actions must occur.

In colder climates the lungs are the chief agents, while in the warmer ones increased action is imposed upon the liver.

Increased action implies increased determination, and this, again, disposes to inflammatory tendency and congestion. But, as variety of temperature causes variety in the energies of action in the liver and the lungs respectively, corresponding consequences supervene; and, as the lungs are more engaged in cold climates, they are also more disposed to disease; while in the warmer ones, the liver, acting with increased energy, becomes also more susceptible.

Bury Lane, August 7, 1820.

VI.

Case of Aneurism of the Arteria Innominata, with Drawings.

By John Whiting, M. D. Lynn-Regis.

The drawings which accompany this letter are intended to represent an anterior and posterior view of an aneurism of the arteria innominata, taken from the body of a man about 40 years of age, whose general health had been good; but, for about three years previous to his death, he had laboured under a constant difficulty of breathing. This difficulty was much increased by all muscular exertions; and, on walking against the wind, ascending a hill or a flight of stairs, it amounted nearly to suffocation, obliging him suddenly to rest, as in angina pectoris. Ordinarily, he complained of no pain in the chest, and he could fill his lungs with air without inconvenience. He was frequently troubled with a harsh and crowing cough, and expectorated much mucus, which was sometimes streaked with blood. To these symptoms was added difficulty in swallowing all solid food.

The patient attributed his ailments to some cause which existed in his throat, and pointed to the top of the sternum as the diseased part.

Nothing remarkable had been observed in the pulse until shortly before his death, when the surgeon who at that time attended him found it intermitting in the right wrist. Unfortunately the left was not examined.

During the period in which he was the subject of these symptoms, he was frequently attacked with catarrh, which invariably aggravated his distress. At these times, indeed, he suffered

much pain in his chest, accompanied with high fever; and so urgent has been the dyspnœa, that the strongest muscular efforts were required for carrying on respiration. After a few days, these attacks generally terminated with a copious expectoration, and he was restored to his usual state, as described in the former part of my letter. But, while labouring under the last attack of this kind, nature seemed to be exhausted in the struggle to maintain the action of the lungs, and he died about a week after the commencement of the catarrhal symptoms.

While the disease was making its progress, various remedies were used, accordingly, as the circumstances indicated. When the symptoms were of the severer kind, bleeding and blistering gave him much relief; and, at other times, a compound of aloetic and squill pill, taken at bed-time, seemed to be of service in promoting the expectoration, and preserving the healthy action of the bowels.

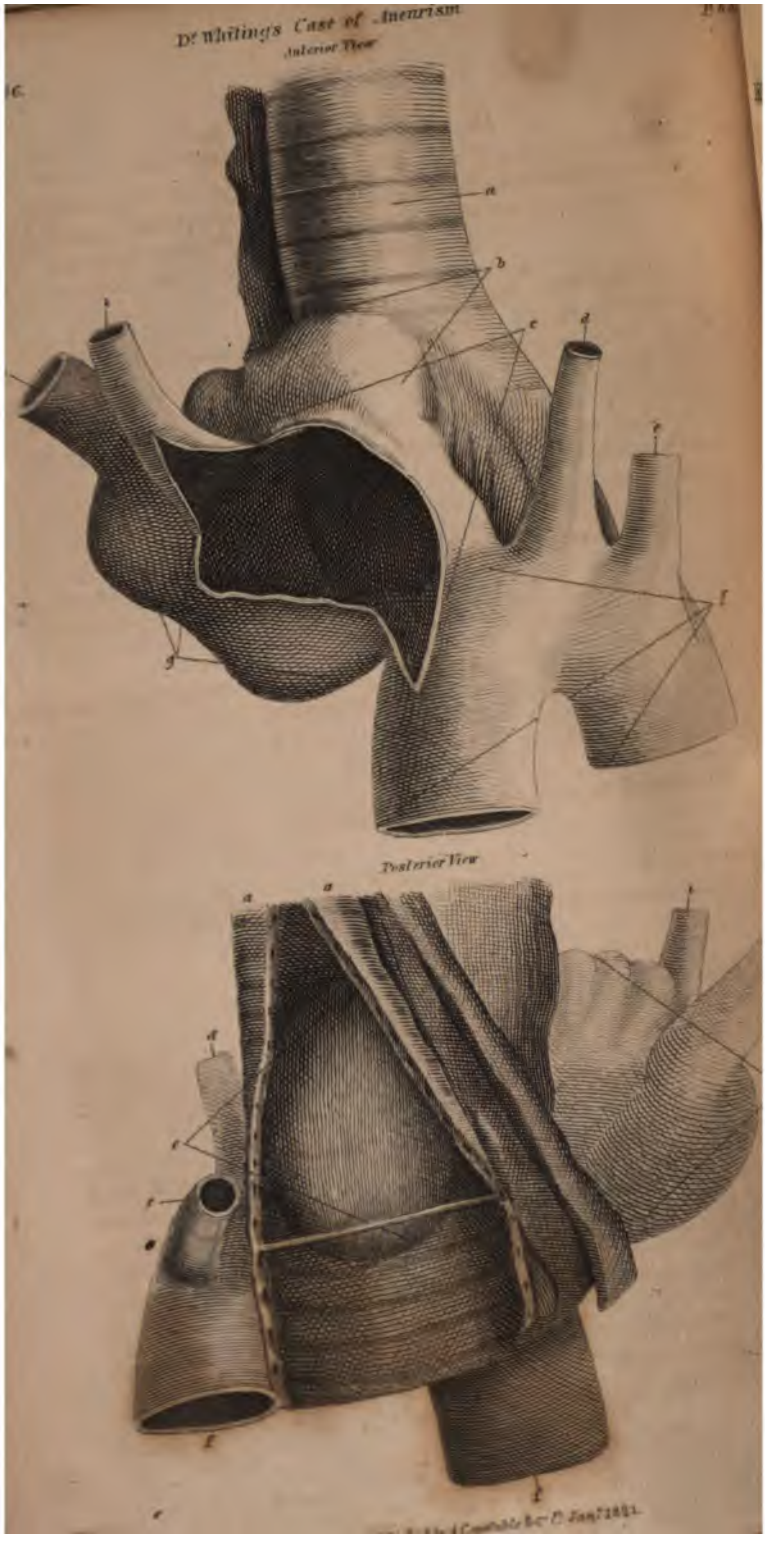
On inspecting the body, but few things that were remarkable presented themselves besides the aneurism.

The muscles of the chest and abdomen were unusually large and florid, the intercostal particularly so. This circumstance may perhaps be attributable to their constant and powerful employment in respiration. The viscera of the abdomen were in the most healthy state; nor was much disease discovered in the chest. The heart, however, although of its usual structure, was larger and stronger than it is commonly found. Neither the external surface of the lungs, nor an incision made into their substance, discovered any thing morbid, except a considerable enlargement of the ramifications of the bronchia, which were also filled with a frothy mucus, and the membrane, which lined them internally, appeared to be slightly inflamed.

The aneurism was discovered lying immediately behind the upper extremity of the sternum, and a little toward the right side, pressing backward upon the trachea, the cartilages of which seemed to have been absorbed at the part where the pressure had been made. By this pressure, also, a perfect union had taken place between the aneurismal sac and the trachea, and a smooth, red, oval tumour appeared within the tube, of such a size that its calibre was diminished more than one half. These particulars, I think, may be sufficiently understood by comparing this short description with the representations of the parts, which I have sent you. The other parts of the throat were in a sound state.

Should the relation of this case be considered by you worthy of a place in your Journal, its insertion will greatly oblige me.

Lynn-Regis, March 20, 1820.


Dr Whiting's Case of Aneurism
Anterior View
a
b
c
d
e
f
g
h
i
Posterior View
a
a
d
e
f
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h
i

DESCRIPTION OF DRAWINGS.

Anterior View.

a. Anterior part of the trachea.
b. Junction of the aneurismal sac with the trachea.
c. Aneurismal sac cut open and seen projecting backwards into the trachea.
d. Left carotid artery.
e. Left subclavian artery.
f. Arch of the aorta.
g. Aneurismal sac.
h. Right subclavian artery.
i. Right carotid artery.

Posterior View.

a. a. Trachea cut open on its left side.
c. Tumour formed on the right and posterior part of the trachea, from the pressure of the aneurism.
d. Left carotid artery.
e. Left subclavian artery.
f. f. Aorta.
g. Posterior view of the aneurismal sac.

VII.

Case of Purpura Hæmorrhagica, with Remarks. By J. S. Combe, M. D. Member of the Royal Medical Society of Edinburgh.

While the opinions of medical men, relating to the pathology and treatment of purpura hæmorrhagica are so unsettled and contradictory, the discovery of any circumstance which may tend to elucidate the one, and improve the other, must be considered as not a little interesting; on this account, I trust that the history of the following case will be found not altogether unworthy of a place in your valuable Journal. The case which I am about to relate, afforded me an opportunity of detecting an important change in the urinary secretion, hitherto, as far as I know, unobserved in similar circumstances; and

which I conceive may be of great service in directing us to a more correct knowledge of the disease, and consequently to a more rational and successful mode of treatment.

Edward Canny, æt. 10, was brought on the 19th September 1820, for advice, to the Leith Public Dispensary, and afforded a fine example of this remarkable disease. His skin is universally covered with petechiæ of a dark brown, almost black colour, varying in size, from that of a pin head to one-third of an inch in diameter; their form is nearly circular, but, on the lower extremities, they are observed to be less distinctly circumscribed, and of a pale colour. On the face and extremities they are not perceptible to the touch, but feel slightly elevated on the chest; a number of small hard tubercles can be felt on the scalp, which, when pressed, occasion a slight degree of pain; the tongue, gums, and fauces, as far as can be seen, are studded with spots, but not so thickly as on the outer surface. The intervening portions of skin and the tunica adnata of the eye are of a bluish white, very sickly colour. There is a constant and pretty copious discharge of *thin* pale blood from the mouth and nostrils. The petechiæ on the tongue bleed freely when touched. Pulse 116, small, and rather sharp; skin hot; tongue white, with a very slight fur; his breathing is hurried, but he is able to draw a full inspiration. His appearance is strongly expressive of anxiety, poverty, and debility. He says that his appetite is not affected; that he is very thirsty; suffers severe pain in his head and legs; and that he is very weak.

His mother reports that she first observed these spots two days ago when the boy rose, and that on the evening of the same day, the blood began to flow from his mouth; that he had passed a loose stool, in which there were bloody dots. She is greatly alarmed; neither can she assign any cause for his illness. He was ordered a brisk purgative, and 10 drops of acid. sulph. dil. aromat. thrice a-day.

20th.—The petechiæ are now of various shades of colour; blood coming off very freely; pulse 120, and small; one stool procured, which was scanty and very fetid; skin hot; appetite good; the urine reported to be sparing in quantity, and thick.

Rep. pulv. purg. et cont. acid sulph. D.*

On the 21st he was not visited.

22d.—I found him nearly as he was two days ago. A number of the spots are run into large vibices, and the discharge of blood is equally copious, and seems much attenuated; his pulse 120, and fuller. Has vomited twice a little blood; complains much of sickness when his head is raised from the pillow; severe pain of the head; bowels

* It is proper to remark, that the patient was first under Dr Anderson's charge; but being unable to attend at the Dispensary, Dr A. obligingly requested *me to* visit him, which I did from the 20th September.

freely opened: stools dark-coloured and fetid; his urine I could not get a sight of, but it is reported to be of a high colour, and sparing in quantity.

Habt. iterum pulv. purg. et sumat. pulv. cinch. gr. x. cum acid. sulph. dil. gtt. viij. quartâ quâque horâ.

Let him have an ounce of port wine every five hours.

23d.—Slept ill; complains much of the pain in his forehead; nausea, and occasional retching; great debility. Pulse 110, and small; the petechiæ and hæmorrhage as in last report; bowels freely opened; urine scanty, turbid, and depositing a copious sediment; his body emits a most offensive fetor, extremely disagreeable even to his friends, not accustomed to breathe the purest atmosphere; they could not procure wine for him, but had given him warm spirits and water pretty freely.

Cont. omnia.

24th.—I found him this morning in a very alarming state; he is oppressed with nausea, and vomits on the least exertion. He has not taken his medicines; the blood is flowing more copiously from his mouth; the petechiæ are gone into large clusters on the forehead, arms, and legs. Pulse 120, and hard; violent pain of his head; skin hot on the trunk, but cold on the extremities. Having detected serosity in the urine yesterday, and observing that the present treatment is not only useless, but seems positively hurtful, I resolved, in his desperate state, to alter the treatment, and to try the effect of venesection. The state of the pulse alone encouraged me to do this. Not being able to find a proper vein in the arm, I opened the external jugular vein, keeping his head low; about ℥viij. of blood were abstracted. He became faint, and vomited; the pulse softer and slower. The blood flowed in a small stream, and was of a very pale colour, liker the washings of flesh than common blood; it coagulated slowly, without any separation of serum, and shewed no buffy coat. He was ordered a purgative, and to discontinue the other medicines and spirits. On calling eight hours afterwards, I was happy to find him rather better; the sickness had much abated, without any recurrence of the vomiting. Pulse 110, soft; headach easier; bowels have been opened three times, and the stools are more natural in appearance. There has been a copious flow of pale, limpid urine; the wound in the vein had not closed, and he had lost probably about an ounce and a half of blood before it was stopt. It was bound up with a compress and proper bandage.

25th, 8 o'clock, A. M.—I was called in great haste to stop the bleeding from the wound of the jugular vein. His clothes and bedding were quite soaked with blood; it was observed to be still paler, and more attenuated than before. Caustic was applied to the edges, which looked more dead than living. In other respects he was decidedly better; his voice was stronger, his countenance more animated. His headach was relieved, and there was no nausea or vomiting; his urine was very turbid. He was ordered to be kept quiet, and to have what diet he chose, but no spirits. I saw him again in the

evening, and learnt that, for the last two hours, no more blood had been discharged either from the wound or mouth.

Habt. tinct. opii, gtt. xx. h. s. Et pulv. jalap. gr. xij. cras mane.

26th.—The wound again opened during the night, by which he lost about an ounce of blood. Slept well; headach very slight. Pulse 120, and soft. No more blood discharged from the mouth or nose; the petechiæ are of a fainter colour, and more diffused. The bowels have been freely opened; stools natural; urine clear, and of a pale yellow colour.

27th.—Convalescent. No fresh spots or hæmorrhage. He was ordered a mild purgative and a generous diet.

28th.—Gains strength. Bowels costive; appetite improving; slept well; spots of a bluish appearance. He was ordered to resume the acidulated bark, and a brisk purgative.

30th.—Convalesces rapidly, sits up for a few hours, his appetite and digestion are good, and he has no pain of head.

Oct. 4th.—Gains strength rapidly, and has no complaint.

7th.—The spots have disappeared, and he is discharged.

I shall now proceed to state more fully the peculiarities in the urinary secretion to which I alluded. It is unnecessary to state the results of every day's examination. I shall therefore select portions of urine passed at three different periods, in all of which the changes were very striking.

The first portion which I examined was passed on the 23d September, at 9 A. M. the day previous to the venesection; and the following is the result of the analysis performed an hour afterwards.

1. It was observed to be of a fawn colour, turbid, and depositing on standing a brown, flocculent precipitate, sp. gr. 1°.023, smell urinous and sharp.

2. It did not affect the colour of paper stained with litmus, turmeric, or litmus paper reddened by an acid; acetic acid produced no change.

3. Diluted nitric acid caused an immediate precipitation of a dense, white coagulum: 240 grains of urine yielded about 4 grains of this substance nearly dry.

4. Four drops of a saturated solution of oxymuriate of mercury produced the same effect, but the precipitate appeared granular and less in quantity.

5. The addition of aq. calcis or aq. ammoniæ caused a precipitate of a white powder, in an unusually large proportion.

6. A portion of it set aside, in six hours gave evidence of the existence of ammonia; in sixteen hours it was very putrid.

7. 480 grains of it were heated; at the temperature of 156° it became turbid and milky; speedily copious white flakes separated; and, upon reaching 180°, it was covered with a thick white coagulum; the remaining liquor was clear, and contained 1-35th part of solid contents. Treated in the usual way, it afforded no uric acid, and a very small proportion of urea, but a large quantity of phosphoric salts and colouring matter.

8. Oxymuriate of mercury and infusion of galls added to the filtered liquor produced no change.

From these experiments (and others which it is unnecessary to relate) we find that this portion of urine contained a large quantity of serosity and phosphates, with no free acid, and a small proportion of urea. Experiment eighth indicates the absence of any gelatinous or muco-extractive matter.

The urine of the next day seemed to contain rather less albuminous matter, but no free acid; it speedily putrified. That of the 25th and 26th differed only in containing less serosity; that of the 28th deserves to be more minutely detailed.

1. It was perfectly clear, of a pale yellow colour, depositing no sediment. Sp. gr. 1.026.

2. It distinctly but faintly reddened litmus paper, and the brick-dust crystals were deposited on the addition of nitric acid No coagulation.

3. Infusion of galls occasioned a copious brown precipitate.

4. On heating it to the boiling temperature, it emitted a strong urinous odour, suffering no other change. Infusion of galls produced the same effect on the filtered liquor. It afforded a considerable proportion of urea and phosphates.

5. A portion of it set aside, in the space of 24 hours was still acid; in 12 hours more, it was alkaline and fetid.

6. By evaporation its solid contents amounted to 1-29th part.

This portion of the urine, then, is to be distinguished from the former, as containing no albuminous, but a free acid, and gelatinous matter. That of 29th did not perceptibly differ; but on the 2d October, I could detect neither albuminous nor any other foreign ingredients; it strongly reddened vegetable blues; in short, I could not find that it differed in any respect from healthy urine.

We have thus observed the urine in three very different states of chemical composition, and perhaps it may hereafter be discovered that these changes are connected with, and indicative of, other important changes going on in the animal economy. We have, in the first place, the urine at the height of the disease, and previous to venesection, remarkable as containing no free

cause, have attributed it to general debility. "Non possum igitur quin putem, debilitatem haudquaquam causam proximam esse hæmorrheæ." "Hoc autem non est theoriam proponere, sed rem tantum affirmare." *

From an attentive consideration of the phenomena of this disease, from the appearances presented after death, and from the effects of the *juvantia* and *lædentia*, I think we are warranted to consider many of the symptoms of this affection to result from an increased vascular action or sanguineous congestion; and that it bears, in one respect at least, a striking resemblance to the inflammatory dropsies.

In confirmation of this opinion, (which I am aware is not original though admitted by few,) I would refer to several papers recorded in your Journal. Two very interesting cases transmitted by the late Dr Parry, both occurring in plethoric habits, and immediately relieved by venesection, bear strong evidence on this point.† Dr Bateman met with a case in a debilitated woman, and prescribed tonics, which were useless; but she was cured by purgatives, and the discharge of the catamenia. "This circumstance," adds Dr B. "tends greatly to obscure the pathology of the disease."‡ Dr Jeffreys relates a very alarming case which yielded to bleeding; and Dr Harty of Dublin has found tonics injurious, but purgatives effectual in all his cases. ‖ Two cases, highly important from the examination after death, are detailed by Drs Bateman and Walsh; in the first there were many proofs of congestion in the viscera of the chest and abdomen; § in the other, occurring in a robust soldier, a large clot of blood was found lying under the left temporal bone, with great turgidity of the vessels of the pia mater, and copious petechiæ on the stomach and duodenum. The man died comatose. ¶ Dr Blackall has related four cases of what he terms "Diseases resembling Land Scurvy," but which I humbly imagine are to be referred to the disease now under consideration, and differing only as having occurred in vitiated habits. In three of them serosity was detected in the urine. ** The close resemblance which this disease holds with the hydrops plethoricus of Continental authors, must strike the most super-

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* Bateman, Disp. Med. De Hæmorrhagea Petechiali, Edin. 1801.
† Edin. Med. and Surg. Journal, Vol. V. p. 7.
‡ Ibid. Vol. VI. p. 124.
‖ Bateman's Synopsis.
§ Edin. Journal, Vol. VI. p. 374.
¶ Ibid. Vol. IX. p. 161.
** Blackall on Dropsies, p. 150.

ficial observer. Dr Grapengiesser remarks, that those of a lax and spongy habit are predisposed to dropsy; that they often complain of congestion in the head; that the only natural crisis is a hemorrhage; that on dissection the large vessels are found turgid; and that the stimulant plan of treatment is always hurtful.* Lastly, we have to take notice of the curious coincidence in the states of the blood and urine, the former uniformly exhibiting the buffy coat,† the latter abounding with serosity. On this latter circumstance, as manifested in the present case, where what are called the symptoms of debility and putrescency were very alarming, I am disposed to lay considerable stress. The bugbear debility has long blinded our judgments, and fettered or misplaced our exertions; but its true nature has been ably explained by our modern Sydenham.‡ The existence of the albumen in the urine, striking in itself, is important equally in a pathological and practical point of view; for I consider it to be a point established by the most accurate observation, that its presence is connected with an increased action in some part of the sanguineous system, and that in such cases the depleting system is at least safe; the contrary always pernicious. Dr Scudamore, an excellent observer, indeed thinks, that such a state of the urine may be induced by a vitiated state of the digestive organs, (at present the fashionable *fons malorum*,) and that purgatives may be useful in this respect. Yet this judicious physician has not failed to make the following valuable remark: "In many most opposite and striking instances of disturbed action of the stomach, the liver, and the bowels, I have not succeeded by purgatives and alteratives, until the brain itself has been relieved from a state of congestion, and which had been rather obscurely shown by the symptoms."‖

I am disposed to think that there are two species of purpura hæmorrhagica, the one accompanied by fever, and a disease of increased action; the other a chronic affection, and not attended by fever, inflammatory blood, or serous urine; our practice of course must be regulated by the individual cases, and not a little, perhaps, by the state of the urinary secretion.

Leith, 1820.

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* Grapengiesser, in Duncan's Med. Annals, Vol. I. Consult also Strack and Burserius.

† The case just described may be considered by some as an exception to this general remark; but I have little doubt that if the blood had flowed under favourable circumstances, the buffy coat would have been found; it coagulated slowly.

‡ Armstrong on Fever.

‖ Scudamore on the Gout, p. 483.

VIII.

Observations on the Treatment of a Ruptured Tendo-Achillis. By A. Edmondston, M. D. Fellow of the Royal College of Surgeons, Edinburgh, &c.

The following facts will, I hope, tend to illustrate the pathology of sprains, and lead to the adoption of a simple and effectual method of treating a ruptured Tendo-Achillis.

Some time ago, when dancing, I felt as if something had suddenly given way at the lower part of the calf of my right leg, accompanied by a sound like that of a person snapping his fingers smartly. Aware of what had happened, I had the precaution to pass to a chair, and immediately sat down. On examining the leg, I found that just at the lower part of the calf, a little above the point where the fibres of the gastrocnemii muscles begin to unite to form the Tendo-Achillis, there was a slight degree of redness and depression, as if something had been wanting. It was not painful, except when handled or placed in a dependent position, or when I attempted to set the foot on the ground, but the loss of the use of the leg was complete. I bathed the part in a mixture of warm water, vinegar, and spirits, the only application I could command at the time, and soon afterwards I applied the bandage, and kept the leg in the position recommended by the late Dr Monro. I felt little or no pain as long as I could adhere to his directions, but the least degree of exertion brought matters to their former state, and seemed to indicate that my cure was advancing very slowly. A little experience of its effects convinced me, that if the bandage did not support the leg uniformly and equally, it must do mischief occasionally. I saw that continued rest, in any one posture, was scarcely practicable, and, indeed, I was led to think, that the long state of inactivity recommended and followed, with a view to give time to the separated fibres to reunite, was a chief cause of the wasting and loss of strength in the leg, that frequently took place in similar cases. More than a week had already passed away without the least apparent amendment; and impressed with the apprehension of a long and tedious confinement, and anticipating some of the more disagreeable consequences which ensued from affections of this kind, I became very anxious, and often low-spirited.

Reflecting on these circumstances, it fortunately occurred to me, that straps, spread with the common adhesive plaster, might

support the leg more steadily and uniformly, under every change of posture, than any bandage whatever; and I resolved to carry this view into immediate practice. Having previously shaved the leg, I applied straps along the whole of it, beginning at the ankle, and carrying them as high as the knee, of such a length as to overlap each other by several inches. I took great care to apply them in such a manner as that the pressure should be equal throughout, and over them I put on a very tight elastic worsted stocking.

In three days after the application of the straps, I could walk with the help of a stick, dragging the injured leg after the other, and resting on its heel, and although I took care, whenever I sat down, to place the limb in a horizontal posture, yet even if this were omitted, I no longer felt that sense of weight and uneasiness of which I had formerly complained. In the course of a fortnight I could walk in the awkward manner mentioned, several hours each day, without feeling pain, or becoming fatigued, although I could not rise upon the toe of the sprained leg, or advance it alternately with the other. In three weeks more I could walk slowly as well as ever, but I felt both pain and uneasiness in the part which had been injured, if I happened accidentally to use any freedom with it. I continued therefore to walk two weeks longer in this guarded manner, making in all seven weeks, from the time of the first application of the straps, when, to my great satisfaction, I found that my right leg was of the same size, shape, and strength as the other, without my having been subjected to the necessity of confining myself for a single hour during the whole time of the cure, to any particular posture. As the straps created no inconvenience, I continued the use of them a fortnight longer, when they were finally laid aside. I took off the stocking, after a few nights, regularly when I went to bed, but the straps were never removed, unless to be replaced by fresh ones, which I found to be necessary at the end of every eight days.

In all cases of what are denominated sprains, I conceive that the fibres of some muscle or muscles have been either actually ruptured, overstretched, or so much bruised, as to prevent them from being alternately contracted and relaxed, as in a state of health. Still, however, there is a tendency to motion either in the sound parts of the affected muscle, or in those muscles which are more immediately contiguous to it, and it becomes, therefore, a chief object in the treatment to give a due degree of support to the injured part, and so to preserve it in its proper position, that the affected fibres may neither be displaced, nor have their returning strength prematurely exhausted by such

motions. Long continued rest, although it may give time and opportunity for the reunion of the separated fibres, diminishes the tone and natural energy of the organs, and has the effect of inducing general weakness in the system. Friction on the injured part, with stimulating substances, by exciting irritation in it, favours absorption, and thereby becomes useful in bruises, but it fails in communicating the stimulus of association, if I may be allowed the expression, which keeps alive in the muscle the habit of performing its accustomed motion. But a constant, equal, and firm support, while it keeps the injured parts in close adaptation to each other, permits the organ to exercise its functions in proportion as it recovers the faculty of doing so, and thus shortens the period of confinement, and renders the cure at last more complete.

I have employed adhesive straps repeatedly in sprains in other parts of the extremities, and always with advantage; and I have little doubt they would be eminently useful in fractures of the leg or fore-arm, when one of the bones only had been injured.

IX.

Case of Erysipelas * *of the Face, where Inflammation extended to the Brain, removed by copious Depletion.* By D. J. H. Dickson, M. D. Fellow of the Royal College of Physicians, of the Royal Society of Edinburgh, of the Linnæan Society, and Physician to the Clifton Dispensary, &c.

James Watson, a stout boy, a little more than six years of age, fell into the water when the ice was broken, during the severe weather on the 15th January, but was speedily res-

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* That erysipelas is a contagious disease has been much disputed, and the doubts which many entertain on this head are strengthened by its infrequency, of late years, in our hospitals, since their great improvement in ventilation, cleanliness, &c. Nevertheless, there are several instances on record of the occurrence of this disease in private families, and even in pure air, which strongly countenance the opinion, that it is occasionally propagated by contagion. Of this nature are some examples, which I transmitted to the able editor of the Medico-Chirurgical Journal, and which appeared in the Number of that work for April 1819, p. 615, *et seq.*

cued. He did not manifest any particular signs of indisposition until the 19th, when he had chills, succeeded by heat, and complained of pain in the right side of his face, which appeared red, and slightly swelled. For some days he continued listless, heavy, feverish, and occasionally sick, with loss of appetite. The redness and tumefaction increased, and spread upwards, and he became drowsy during the day, and restless and wandering at night. The neighbours told his mother it was St Anthony's Fire, and advised her to keep him warm, and to give him some physic. On the 25th, the day before I saw him, he became much worse, and application was made to the Clifton Dispensary for medical assistance. On the same evening a cupful of blood (about ℥vi.) was taken from his arm, and a cathartic powder and febrifuge mixture were prescribed.

Jan. 26th.—He appears very drowsy, and is reported to sleep much. The right side of the face and the forehead are occupied by an erysipelatous inflammation, and the eye-lids are also tumid, and nearly closed. The pulse is quick, the skin hot, and tongue white; there is nothing unusual in the appearance of the blood. The cathartic powder has not produced any effect.

℞ Hydrargyri submuriatis ℈i.
Pulveris jalapæ—℈ij. M. et divide in chartas quinque, quarum sumat unam quarta quâque horâ donec plene dejecerit alvus:

27th.—He has passed a very bad night; either restless, and complaining loudly of his head, or lying in a state resembling coma. He is now (two P. M.) quite phrenitic; screams out violently, and attempts to get out of bed. The pulse is quick, and rather full; the erythema and swelling have increased. Has taken three powders, and had three pretty copious, dark-coloured motions.

Statim fiat venesectio, pleno rivo, ad ℥viii. Admoveantur temporibus hirudines quinque.
Vespere, si perstet dolor capitis, horam circiter nonam, repetatur sanguinis detractio prout vires;
Necnon imponatur vesicatorium scrobic. cordis horâ somni, atque continuentur pulveres ex jalapa et calomelan. ut heri.

28th.—While I was writing the prescription yesterday, he got out of bed, and falling, struck his forehead violently upon the stone floor. He became more composed after the bleeding, but, unfortunately, it was not repeated in the evening, agreeably to my directions. Three of the leech-bites, however, continued to bleed during the greater part of the night, which was

passed in a comatose or delirious state, like the former, with occasional fits of screaming. The blood drawn exhibits a large proportion of crassamentum, but is not buffy. He had one large evacuation this morning, and seemed then somewhat better. The face, particularly the forehead, is much swelled, and the eyelids are quite closed; the pulse is very quick, and he now screams violently.

Quamprimum mittatur sanguis modo dicendo, et repetantur pulveris cathartici, ut antea prescripti.

29th.—On leaving the patient yesterday, I personally stated to the surgeon my opinion of the imminent danger of the case, and that my hope entirely rested upon making a powerful impression at once, by a bold and decisive repetition of the use of the lancet. I therefore requested him to carry the abstraction of blood to the greatest extent which the patient could bear, or until the cerebral affection was decidedly relieved. My wishes were promptly put in execution, and notwithstanding every resistance, by biting and struggling, in the power of the little sufferer, eight ounces of blood were speedily abstracted, when he became very faint and quiet, and the desired effect was produced. On returning in about two hours afterwards, I found him perfectly calm and collected, his face blanched, and all the symptoms of inordinate excitement apparently subdued. He has had a quiet night, is free from delirium, and in all respects much better to-day. He has made a large quantity of water this morning; the bowels are open, but the evacuations are still of a very dark colour; the pulse is quick, but soft. The blood abstracted yesterday coagulated into a firm and nearly solid mass, with very little serum,—a condition which I have frequently had occasion to observe in febrile disorders, and where venesection was considered not the less necessary, although there was no separation of fibrine.

℞ Hydrargyri submuriatis, ℈i. sacchari ℈ij. M. divide in chartas x. quarum sumat unam 4ta quâque horâ.

30th.—He has had two free bilious-looking motions; and, except where he struck his forehead, the swelling is diminished, and he can open one eye. The pulse is still quick. Cont. calomelas.

31st.—He is very quiet, and appears to be quite sensible; but he is irritable when touched, and complains of his forehead, and of the blister. Has taken all the powders, and had two more bilious motions only. Habeat pulv. cathart. ex jalap. et calomel. h. s.

Feb. 1st.—He sleeps a good deal, and is very irritable on being moved, but is quite sensible, and free from any cerebral

symptoms. The swelling of the face and eye-lids is almost gone, and the cuticle is desquamating in different places.

℞ Pulv. jalapæ gr. viii. Hydrarg. submur. gr. ij. M. mitte ij. Capt. unam vespere si opus sit.

2d.—Has had two motions of a more natural colour. His mouth is very moist with saliva, and he feels his tongue with his fingers, as if it were sore.

3d.—Is doing well. Habt. pulv. cath. h. s.

4th.—There is still some degree of arterial action, and the bowels are inactive, except when he takes a purgative.

℞ Pulv. jalapæ, gr. xij. Pulv. antimon. gr. xij. Pulv. digitalis, gr. iij. Sacchari ʒ ss. M. Div. in chart. vi. una capienda nocte maneque.

5th.—He takes sufficient nourishment, and is better in all respects, but the frontal tumour from the blow increases in size. Contr.

7th.—The bowels are open, and he makes no complaint except of his forehead. Repetantur pulveres 4to prescripti.

9th.—He sits up, and eats with appetite; his pulse is less frequent, and the bowels are open. Continuentur pulveres.

11th.—The frontal tumour is considerably larger, soft, and evidently contains matter. In all other respects he continues to improve. Omittantur pulveres. Habt. pulv. cathartic. ex jalapæ et hyd. sub. ut antea prescript. No. iij. Sign. 1 sumend. pro re nata.

Consigned to the care of the surgeon.

As the nature of the present case, and the indications of cure, were sufficiently obvious, it seems to me quite superfluous to subjoin any farther observations.

Clifton, Feb. 1820.

X.

Remarks on the Dracunculus or Guinea Worm, as communicated in a Letter, addressed to the Medical Board, Madras. By Mr William Scot, Surgeon, 1st Battalion, Madras Artillery, communicated by Alexander Kennedy, M. D. Edinburgh.

Our knowledge of the nature and habitudes of the Guinea worm appears to be less advanced, than the frequent opportunities offering for investigation would have led us to ex-

peet. We are told in books, that it is the Vena Medinensis, or Gordius Aquaticus of Linnæus. It is most commonly referred to some state, or quality of water used internally; by some to humidity, and filth, and by others it has been imputed to contagion. Dr Chisholm, the most copious and the latest writer I have seen on the subject, is decidedly of opinion, that it is engendered in the body from ova swallowed in water, although he admits, that the hint given by Dr Anderson, and others in this country, of its being deposited in the skin by the parent worm, *may* be true.

In the month of February 1815, I marched with a detachment of artillery from the Mount, to join the grand army on the banks of the Toomboodra. The detachment returned to the Mount in June of the same year. On taking charge of the 1st battalion of artillery in June of the subsequent year, I found several of those men who had been with me to the field, now ill with Guinea worm, and I was assured that a number of others of the same detachment had similarly suffered, but *not one man* who had been *constantly resident* at the Mount. From that time to the present day, I have met with the dracunculus only in men from the interior; and my mind is so satisfied on this point, that when I see a case occasionally, I naturally inquire, whence the man has come, and when he arrived, knowing well that he has been up the country, from the mere circumstance of his having the complaint.

These facts led me to suppose, that some particular rivers and waters abound with the gordius, and that while men are bathing, or standing in them, the parent animal wounds the skin, generally of the legs, and deposits its ovum; this ovum would seem to require several months to attain to maturity.

Of late some men received from the 25th dragoons have suffered from dracunculus. These men were last year long encamped on the banks of the Toomboodra. Two others, one of the horse artillery, and one from the 84th, have suffered, who have been, the one in the Mahratta country, and the other on the Toomboodra; and I am informed that a number of men of the 25th dragoons suffered from dracunculus after that service. This confirmed me in my former opinion, but I was still unable to form any satisfactory opinion on the nature and habitudes of the animal. I followed the usual routine of saturnine applications, garlick poultices, assafœtida in pills and solution, and the common mode of winding the worm out on a quill. I did not use mercury.

The extrication of the worm is always tedious. One, Lilly, observed to me, that his comrades used to find the worm come

out more readily in a stream of running water. The men have some good, and some bad precepts among them, but generally they are a sort of practical proverbs, which should not be altogether neglected; and though I did suspect that Lilly's hint had some reference to a little liberty, and a stroll to the river, I directed him to immerse his leg in a bucket of water twice a-day. The first trial promised well, as about three inches of the worm came out. I then laid aside all applications but cold water, and thinking better every day of this new remedy, I at last had him brought down to my garden, and exposed his leg to the dash or stream of the Pakottah. On the third morning after this, the residue of the worm, twelve inches in length, came out with a very gentle pull. I put it into water, and examined it three hours afterwards.

The worm had no motion perceptible to the naked eye, nor could I perceive any with the microscope. It was about the thickness of the bass string of a violin, round and plump, flattened by pressure, but immediately resuming the round form; of a pearly colour throughout. On examining it with a microscope, it appeared filled with a curdly fluid, which could be moved towards either end; at the broken end it flowed out, and was milky; but, on being pressed towards the end which was last extricated, not a drop escaped, and the worm became full and tense from the accumulation. This end then was either valvular, or a true *cul de sac.* The worm was of equal volume to within the last inch, when it became a very little larger, was spirally indented, and ended in a small hooked point. On snipping off this point, the milky fluid escaped. This would seem to be the tail of the animal, but the existence or position of an anus, I could find nothing to clear up. With the microscope I could trace a transparent line running longitudinally the whole length of the animal. On inserting a tent needle into the tubular cavity, which pretty exactly filled it, I perceived that this transparent line was merely the lateral spaces between two longitudinal thick slips of white, which I suppose to be the muscular part of the animal; these are of very considerable strength, for, in this dead state, a loop of the worm supported a weight of 11¾ ounces, and was broken in one limb nearthe hand by 12 ounces avoirdupois. When the outer walls of the worm gave way, an inner filamentous body lengthened out. This again was tubular, and contained the milky fluid, and I conclude it to be the intestinal part. There were also many hair-like filaments, such as are described by Mr Patton.

I now began to suspect that the practice of applying noxious

matters, in the view of killing the animal, was wrong. I concluded that my first opinion was correct, that an ovum had been deposited by the parent gordius, while the man was bathing or wading in the river, or other waters; that the time for its maturation had passed, and that for its extrication arrived; and that the animal, having now a new law of its existence to fulfil, sought delivery from its present habitation. This supposition accounts for almost every appearance which has yet been noticed; the dracunculus never gives pain till the progress of extrication begins, and its motion being so languid as generally to escape detection, we may presume that its growth is slow. Judging from the cases I have seen, and from those detailed by Messrs Bruce, Patton, and M'Gregor, several months would seem to be requisite for its full developement. The men being all exposed to the cause about the same time, especially in the instance of a ship's crew, the commencement of the *extricative* process will occur also about the same time, with sufficient variation, however, to have given rise to the idea of contagion. It accounts for the epidemic form of the complaint, as the animals exist only at certain seasons, and likewise, perhaps, for the obscurity which has hung over its origin, for the mischief is probably not felt, till the existence of the parent animals has passed away. It accounts also for the distress which is sometimes the consequence of rupture of the dracunculus; but this is not so frequent as is commonly supposed; the accident defeats the end of the process begun by the animal for its extrication, and he must have some power of repairing the rupture and renewing the process. I shall recur, however, to the subject of the secondary pain, inflammation and suppuration.

I have not had an opportunity of examining the head of the animal on its first appearance. Unless this should happen when the surgeon is present, the part will always be found shrivelled and pinched. In one Ashworth's case, the worm had been twice broken off without my seeing it; the part healed up, and then the inflammation came on again, from new efforts of the animal, on parts already diseased; but this was confined to a small spot only. At length I saw the worm; it could barely be laid hold of with the nails of my thumb and forefinger, but a slight attempt at pulling caused exquisite pain. Next day renewing my attempt, about five inches of the worm started suddenly out, firm, elastic, and spirally twisted like a cork-screw, and showing evidence, I think, of resistance at the point, to a progressive force from behind. It was so firm as to support itself for a little time perpendicularly to the limb. I did not at that time think of examining it with the microscope, but I believe the head

must have been destroyed by the nails. The usual noxious remedies were applied, and the part extricated soon shrivelled up. Had I known then of the cold water, this would have been a good opportunity for using it. The farther extrication was very tedious, as is always the case about the ankle-joint. However, having seen the good effects of water in Lilly's case, I had Ashworth brought down to the Pakottah also, but the extrication was still slow, and in two or three days he broke the worm for the third time. No pain followed for several days; the orifice was kept open; at last, about an inch higher up, a small red spot appeared, and matter was formed; between this and the first opening, the communication was free to the probe. Whether I had injured the worm by the probe, I cannot say, but after daily expecting to see the skin penetrated, I was disappointed to see the process stop. There came on general inflammation, and great distress, and the mischief extended to the origin of the tendon of the gastrocnemius. Several small collections of matter formed, and I pronounced the worm to be dead. Having enlarged the opening, a considerable piece of the worm came off, evidently dead; then the skin gave way at the very uppermost point, and about an inch came out, of a tapering shape, and having now a better microscope, I found this portion to resemble in all respects the tail of Lilly's worm. The rest of the animal came away in pieces, more or less decayed, and the leg healed. In another case, where the worm had been broken, the new penetrative process went on, the worm again appeared, and was in a few days fully extricated by the stream of the Pakottah; and in another again, repeated rupture of the worm ended in its death, with consequent small suppurations, which were, however, all finally dissipated and absorbed.

No disturbance is felt until the dracunculus begins to act upon the skin. This process, if not interrupted, does not always cause much pain; and after the worm has appeared, the surrounding inflammation ceases, and the parts appear sound and natural, to the very edge of the small orifice; but if the worm has been broken, a new suppurative and penetrative process is begun, generally near the first outlet. If the parts should have recovered from the inflammation of the previous operation, the second will probably not be more painful than the first; but if still tender and inflamed, severe distress may now ensue. But it would appear, that it is when the animal dies and becomes a *dead* and foreign body, that the great mischief happens, and severe inflammation and suppurations ensue; and if this prove a fact, it is a curious illustration of the laws and relations of animal life.

Considerable confusion has arisen from authors quoting from different editions of Linnæus, and it seems also to have been an error of many writers, to suppose the species they have seen to be "the true Guinea worm." Dr Chisholm asserts, that the species he met with, was the "Gordius totus pallidus, the true Vena medinensis" of Linnæus. Now, in the edition of Linnæus which I have access to, the Vena medinensis is a species of filaria, and not a species of the gordius. There seems little reason to doubt that all these worms have the power of infesting the human body. I am disposed to refer those I have seen to the 4th species, "lacteus," which is, "G. totus albus opacus; habitat per myriades a Junio ad Septembrem in aquis." As some species affect argillaceous and brackish oozy soils, I would be disposed to refer Dr Chisholm's to that class: for, if animals of that length and bulk inhabited the clear water of the wells, they must have been now and then seen, which he says expressly was never the case.

He altogether fails in accounting for the almost universal appearance of the worm in the extremities, on the opinion, that the ova are received into the stomach; and his other opinion, that the ova themselves may possess the power of penetrating the skin, appears irreconcilable with nature. It seems much more probable, that the parent worms lived in the wet and brackish soil in which the wells were dug, and that the ova were by them deposited in the limbs and feet of the people frequenting the wells. The disease disappeared on causing the Negroes to use the water of tanks or cisterns; but these, being artificial, would doubtless be placed near the habitations, in a dry and elevated spot, in which soil the gordius was not likely to be found. The wells, on the contrary, were near the sea, and so low as to be under the influence of the tide. Had the Negroes continued to frequent them for the purpose of washing, it seems probable they would still have been infested by the worm; but this was effectually prevented, for the wells "were all filled up."

The fourth species, or G. lacteus, abounds once in the year only. It appears also, from the accounts of Dubois and Dr Chisholm, that the disease becomes epidemic once a-year: hence we may conclude, that these animals, having deposited their ova, cease thereafter to exist. The periods of their reappearance probably depend, in tropical regions, on the rains, with respect to the argillaceous and some other species; and on heat simply, with respect to others. If the dracunculus be in reality produced by deposition of an ovum in the skin, and about a year be the term of its existence; and further, if their appearance

depends on the rains, which last three or four months, or on heat, which is at the greatest for the same length of time,—and Linnæus expressly says of the lacteus, "a Junio ad Septembrem," we may hence be led to form some conjecture of the time when, in the human body, it will begin the extricative process. Now we find, by Mr Patton's account, that the crew of the Cirencester sailed from Bombay on the 15th August, and there they must have been exposed to the causes of dracunculus during the rainy season. The period of the ship's arrival in China is not noted, but "the last of the liberty men came on board in December." The first case appeared on the 30th May, and the last on the 9th of August; all the rest happening in June and July. If the cause be referred to Bombay, the animal must have begun to appear towards the close of its existence only: but if the cause be referred to China, it must have begun to appear in about six months. The dracunculus, according to Dr Chisholm's account, becomes epidemic in Grenada towards the end of November, and ceases in February. In the 88th regiment, Dr M'Gregor found the disease very prevalent on shipboard during the months of March and April, 263 cases happening in these months, while the numbers before and after that period were very few; viz. from September to 1st March twelve cases, and in May eight cases; but we have no previous history of the regiment. According to Dubois, the dracunculus becomes epidemic in the southern and central parts of the Peninsula in the months of December, January, and February. No correct inferences, however, can be drawn from these imperfect data.

As my opportunities for investigating this subject must at all times be extremely limited at this station, and are for the present altogether at a close, I have ventured to bring these somewhat crude remarks to the attention of the Board, in the view of seeing more correct and valuable information elicited in quarters where the dracunculus prevails.

I shall conclude this paper by recapitulating the points chiefly touched upon, by bringing them forward rather in the shape of queries, or probable conjectures, than as truths. And, 1st, with regard to the nature and habitudes of the animal, Is not the human body liable to be infested with all the different species of Gordius or Filaria? Are not the ova of these animals deposited in the skin by the parent animals, while the parts are immersed in water, or in muddy, argillaceous, or brackish, oozy soils? Do not these animals perish annually? What is the term of their existence in the vermicular form? May we suppose that their developement is hastened by the more favourable ni-

dus afforded by the human body? At what period are we to suppose that the animal begins the extricative process? Is it on reaching its full growth, or before it? Is it necessary that the animals should exist for several months in the full grown state, in order to copulate and bring forth their ova?

The solution of some of these queries might be afforded by a patient and careful investigation of the soils and waters where dracunculus abounds, especially of the soil round brackish wells and of beds of tanks. The time when the investigation should most probably be successful is not so easily determined. If, as we have supposed, the worms of this year be produced from the ova of the former year, the search should begin some time before the usual epidemic period arrives, and be continued through it.

2d, With respect to medical practice, may we conclude, that the mere presence of the dracunculus is not productive of any pain, but that pain and inflammation are the effects of the animal's attempt to escape; that the animal's efforts are naturally directed towards extrication; and that whatever impedes these efforts will be hurtful, and whatever facilitates them will be beneficial; that, after the pain and inflammation attending the first penetration of the skin, the extrication goes on without causing much distress, if not injudiciously interrupted; that the worm may be broken once or twice, without causing more distress than usually attends the first penetration; that it is on the *death* only of the worm that the pain, inflammation, and suppurations ensue to any alarming extent; and hence, that our practice should be directed to the preservation of the life of the worm, and to gently soliciting its extrication; and, in this view, cold water, or a stream of water, or poultices of argillaceous soil, or the black ooze of brackish soils, and such substances, should form our only applications;—that the worm should not be destroyed, by winding it on a quill, but left loose; and that all internal remedies in the view of killing it should be avoided?

St Thomas's Mount, 6th August 1819.

NOTE BY DR KENNEDY.

When communicating to you the Remarks of my friend, Mr Scot, upon the Dracunculus, transmitted for insertion in your valuable Journal, it appears to me, that my mentioning a method by which I have seen it extracted, by a native Indian practitioner, may increase the value of Mr Scot's communication, and perhaps prove useful in places where the Guinea worm is an object of practice.

When the worm is fully formed, it occasions an uneasy feeling in the limb, which, in situations liable to be infested by them, readily leads to suspicion. Examination detects the worm, lying in circular turns under the skin; and, provided no inflammation or thickening has taken place, it may now be readily extracted. The operator, having fixed upon the spot where the worm could be distinctly felt, lifted a small portion of the skin upon the point of a common needle, and divided it by a small knife; and repeated these small incisions perhaps six or eight times, until a drop of lymph passed out upon making the last incision. The wound was not much larger than might be covered by a barley-corn. Upon perceiving the lymph, the operator turned the needle, passed the blunt end of it into the wound, and under the worm, and brought out the duplicature of the worm upon the needle. This he seized with his left hand, and put it upon a firm but gentle stretch, employing the fingers of his right hand in pressing and kneading the surrounding skin, from the outermost extent of where the worm lay, in the direction of the wound, taking care to dip his fingers very frequently into a cup of cold water, placed beside him for this purpose. In this manner, the worm was extracted entire, in the space, perhaps, of a quarter of an hour; and I need hardly add, that the patient had no farther trouble from it. It was about two feet long, looked round, plump, and semidiaphanous, and was no doubt alive, the colour and look of the dead worm being very different. It appeared that he had seized the worm nearly about the middle of its length, and it was probably to enable him to form some judgment upon this point that he had been very minute in his previous examination.

This operator was an inhabitant of the Hill Fortress of Copool, when it was taken from Tipoo Sultaun in the year 1791. That place was notorious for being infested with the Guinea worm, and this man very successfully extricated some of my European patients from its visitations.

I shall only farther add, that, upon that service, our Europeans contracted the worm while exposed to sleeping upon the ground, upwards of five months, upon the red, gravelly, and rocky soil of the hills at Copool; an observation which appears to be at variance with the opinion which restricts the appearance of the worm to moist soils, or exposure to water. It appeared to me, upon that and all subsequent occasions, that sleeping upon the ground, especially with uncovered limbs, was the circumstance of exposure invariably preceding the appearance of the Guinea worm. This would account for the Europeans being less infested with them than the natives, and the

European commissioned officers much less than the privates. Indeed, the Guinea worm is a very rare occurrence among the officers, who sleep upon bed-steads in camp as well as in garrison. In fixed stations, where the men are furnished with cots, placed upon hard, dry, and well-formed floors, and which is the case with all European troops stationed on the coast, the Guinea worm is a rare occurrence; while among native troops, who in barracks are not provided with cots, it certainly occurs much more frequently. It would follow from this, that, in all stations provided with barracks, the European troops ought to be nearly equally exempted from the Guinea worm; and, therefore, I think it not improbable, that the men, of whom Mr Scot speaks as having brought the Guinea worm with them from the interior, may have been men employed upon field-service, or else, who may have contracted the worm, by sleeping upon the ground, during perhaps a long march, in removing to the Presidency.

Upon a subject so very obscure, it can be no wonder that there should exist much diversity of opinion. But, in having brought forward reason to believe that the attack of the Guinea worm is not confined to exposure upon a wet soil, and also, that sleeping upon the ground is the general circumstance which precedes its attack, I do not mean to contend that the worm does not originate from the water, nor to argue that it is not frequently contracted upon moist soils. My premises will by no means warrant such inferences. The preceding observations, even if confirmed, will add very little to our knowledge of the habits of this animal, though they may be of some value as pointing out the best precaution for avoiding its attacks.

XI.

History of a Case of Impracticable Labour, in which the Cæsarian Operation was performed. By William Henderson, M. D.

Mrs Lowe, aged 30, has been twelve years married, and has had three living children. Four years after marriage, she became delicate, and in the year 1814, she was naturally delivered of her last living child. Four months after her delivery, she was seized with a severe fever, from which she had a very slow

nis; then with a bistoury opened the peritonæum. I then made a small incision with the point of a scalpel through the substance of the uterus, at the upper extremity of the wound, through which I introduced the forefinger of the left hand; and, making the finger a director, with one stroke of a blunt-pointed curved bistoury, divided the uterus the whole extent of the first incision. A gush of blood flowed from the vessels in the substance of the uterus. The placenta presented itself, which I immediatelydetached and brought away; then, feeling for the feet of the child, brought them also out. The uterus contracted forcibly round the body of the infant, and by the time the arms were extracted, had closely encircled its neck. To obviate this difficulty, I introduced one finger after another along the neck and occiput of the child, until my left hand was entirely within the uterus; and then by gently pulling the body with the right hand, while the left acted as a lever, at once expelled the head; the uterus instantly contracted, and the bowels rushed out. After some vain attempts were made to reduce them, the edges of the wound were brought together by the continued suture, and the bowels were gradually reduced as the wound was diminished in size. Adhesive straps were then applied to support the stitches; a compress of lint was laid along each side of the wound, and over all a pledget of simple dressing: the whole was secured by a bandage.

Immediately after the operation, which the patient endured with great firmness, she requested to be laid on her left side, which was done. Except a little heat in the wound she complained of no uneasiness. She now took a little wine and water, and about ten minutes after 50 drops of Tinct. opii, which she very soon after vomited. The pulse could be felt at the wrist, but could not be numbered; face pale; no pain.

I proposed to the medical gentlemen present that we should watch by the patient's bed-side for the first 24 hours, should she survive so long. They readily agreed to relieve each other every two hours during that period. Mr Monteath and I remained with her till three o'clock. When we left her, she complained of no pain any where; pulse same as immediately after the operation; has taken a little more wine and water.

The following are the reports of the gentlemen who watched by her:

"4 o'clock, P. M.—Pulse 162; slight thirst; no pain; lies quiet and easy; slight coldness of the feet; discharge per vaginam moderate.

"5 o'clock, P. M.—Pulse 162, indistinct; complains of no

uneasiness; breathing somewhat difficult; has passed urine; skin cold and moist; lips pale; discharge very little.

"6 o'clock, P. M.—Wished to be turned to the left side, which was done without occasioning more pain to her than usual; complains of no pain; extremities cold; pulse cannot be felt at the wrist. Ordered her a table-spoonful of Port wine warmed.

"9 o'clock, P. M.—As in last report; except that the pulse can be distinctly felt at the wrist, which, as nearly as can be judged, ranges from 135 to 145; lochia natural. Having felt the last quantity of wine grateful, ordered to have it repeated; and, in consequence of the coldness of her extremities still continuing, to have bottles of warm water applied to her feet.

"12 o'clock, midnight.—Took a little panada about an hour ago, which she relished; pulse indistinct; complains of considerable pain in the right side, which was relieved by turning her to the other side. On account of considerable restlessness, gave her 30 drops of Tinct. opii.

"3 o'clock, A. M.—Pulse same as in last report; considerable restlessness, and slight delirium; passed urine as usual.

"6 o'clock, A. M.—Pulse 150; considerable thirst and restlessness; looks ill; discharge moderate; delirium gone off; considerable sickness, and tendency to vomit; extremities cold.

"Half past 7 o'clock, A. M.—Very restless; wishes to have her head turned to the other end of the bed, which was done; pulse cannot be felt at the wrist; talks incoherently, but, when questioned, answers distinctly; lochia moderate; seems fast sinking.

"Died at 9 o'clock, A. M."

Dissection.—On Monday, at 1 o'clock, P. M. the body was examined. External appearance, great deformity and extreme emaciation. On removing the dressings, the abdomen was soft and of its natural colour; no traces of inflammation were discernible. The edges of the wound were found to be in exact apposition. We next carefully removed the stitches; and, upon gently separating the edges of the wound, we were surprised to find that, in the short space of 20 hours, adhesion had generally taken place; so much so, that it required some degree of force to separate the edges of the wound. No marks of inflammation were observed on the peritonæum; the bowels were of their natural colour; the uterus did not seem larger than what is natural at the same period after delivery; the sides of the incision were tumid, of a dark purplish colour, and a little separated from each other; no coagulum was found in the cavity of the

uterus; the abdominal cavity contained about two ounces of bloody serum.

Should I ever be called upon again to perform this terrible operation, I would conduct it in every step similar to the above, except in reducing the intestines. In all cases that must be difficult. In this, from the extreme deformity of the patient, it was physically impossible, until the wound was diminished in size. In any case, it appears to me, that the patient would run less risk, and it would be easier for the operator, if, instead of reducing the bowels, as recommended by those authors who have written on the subject, he were to cause an assistant to support them in the palms of his hands, until the edges of the wound were brought together by the continued suture; and, as the wound is diminished in size, to reduce them gradually until the entire reduction is effected. In this way, the bowels would be reduced with the least possible degree of handling; a matter of the utmost consequence to organs of so delicate a structure, and which perform functions of such importance in the animal economy. Those gentlemen who have performed the Cæsarian section will, I am sure, see the propriety of the practice now recommended; and those who may perform it hereafter will not only save time, and give less pain to the patient, but will thereby greatly increase her chance of life.

This is now, I think, the 24th time that the Cæsarian operation has been performed in Great Britain; one woman out of that number only has been saved, * but 12 children have been preserved. On the Continent, however, where the operation is performed oftener, and frequently in more favourable circumstances, the number of fatal cases is much less. The Records of Medicine furnish us with 231 cases of this operation; 139 have been stated to have proved successful. In estimating the hazard of the case, we would err exceedingly were we to confide in this great proportion of recoveries. The inherent dangers of the operation must be always greatly heightened by the circumstances which render it necessary, and the little success which has attended it in this country will make the accoucheur anxious to have his own opinion as to the necessity of the operation confirmed by that of as many of his professional brethren as possible ere he proceed. By this delay, time is lost, the patient's strength exhausted, and the chance of success diminished. But although this delay may in a great measure account for the fa-

* Vide a case by Mr Barlow in Medical Records and Researches, p. 154.

tality attending the Cæsarian operation in this country, yet in some cases it has been productive of good. A striking instance of this was manifested in the delivery of this unfortunate woman in 1818. Neither Mr Barlas nor I could at that time ascertain what part of the child's body presented, by reason of the great deformity of the brim of the pelvis. The outlet was also very much contracted, and offered an insuperable barrier to the complete examination of the brim; to obviate which, I was obliged to force my whole hand within the vagina. By this accidental circumstance, I ascertained that the bones were soft, and yielded to pressure; otherwise we would have certainly recommended the Cæsarian section at that time; and I am satisfied, that the examination of the pelvis *post mortem*, had the operation been then performed, would have completely justified my proceedings.* But although it is a fact that the delay that has been thus occasioned has been prejudicial to the success of the operation in this country, it is no less true that the wantonness with which it is had recourse to on the Continent is less justifiable, and I am not sure but it has been more destructive of human life than our tardiness. Bandeloque informs us of one woman who underwent the Cæsarian operation and recovered, but her subsequent labour was easy and natural; and of another, who expelled her child by the natural pains after she was laid upon the table, while the surgeons were preparing their instruments for this dreadful operation. When we read of cases like these, I do not see how either those who advised, or those who performed the operation, can be acquitted of the charges of rashness and cruelty.

According to Dr Osborne, the Cæsarian operation can seldom be necessary; for he contends, that if there be an inch and a half between the pubes and sacrum, or on either side, the head may be broken down, so as to admit of delivery. And he has farther told the medical world, that he himself brought a child through a pelvis, the widest side of which was only one inch and three quarters broad, and not more than two inches long, by breaking down the cranium, and turning the basis of the skull sideways. Whatever may be thought of this statement, it has never been asserted that delivery was practicable,

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* It may be thought that I here speak too decidedly of the consequences of the operation had it been performed at that time; but the patient's whole frame was so reduced, and the vital powers so much exhausted, that it was impossible for those who saw her, either at that time, or when the operation was performed, to anticipate any thing but an unfavourable result, in so far as regarded her life.

if the space in all parts of the pelvis be less than that above stated. That such a case may occur, is demonstrated by the pelvis of our patient, the greatest conjugate diameter of which was only one inch and one twentieth, as will be seen by the accompanying sketch.

All circumstances rendered the case of this unfortunate woman a most hopeless one. She had laboured under *mollities ossium* for eight years, and, for the last four, had been chiefly confined to bed, and could not move her body from the position in which it was laid without assistance. Her appetite was much impaired, extreme emaciation, and great deformity. When she was viewed in bed, previous to the operation, her appearance was more like that of an Egyptian mummy than that of a human creature who lived and breathed. It has been seen above, that the patient's pulse beat 146 strokes per minute the day previous to that on which the operation was performed. Continued action of the heart to that extent has, in most cases, been regarded as a sure precursor of dissolution.

Appearances on dissection afforded strong presumption, that had her disease been less, and her strength greater, she would have recovered. For, there was no tension of the abdomen, nor appearance of inflammation in any organ, * the uterus excepted, and there it was but trifling, and adhesion in the external wound had generally taken place. This case affords a satisfactory answer to the objection against the incision being made in the linea alba, from the fear that the wound would be less likely to heal by the first intention, than in the more muscular parts of the parietes of the abdomen. When the incision is made in the linea alba, the operation is not impeded by taking up arteries; in our case there was no hæmorrhage whatever from the wound in the parietes abdominis. It was the shock of the operation, and the hæmorrhage, which was indeed but small, (about eight or nine ounces,) but which her exhausted frame could but ill spare, that appeared to us to be the cause of her death.

The history of this case holds out but little inducement to the performance of the Cæsarian operation, in so far as it regards the mother, but it was a case in which no alternative was left; had it not been had recourse to, both lives must certainly have been lost. By it that of the child † was saved, and the mother

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* Perhaps the extreme emaciation of the patient may account for the almost total want of appearances of inflammation.

† A fine full-grown female infant, who is doing remarkably well.

had the only chance of life which her melancholy situation admitted.

EXPLANATION OF THE PLATE.

Fig. I. A diagram, intended to convey a general notion of the figure of the distorted pelvis.

1. A line drawn at the widest part on the left side, from the fifth lumbar vertebra to the ascending ramus of the pubes, and measuring just one inch.

2. A line drawn at the widest part on the right side, and measuring nineteen-twentieths of an inch.

3, 4, 5. The fifth, fourth, and part of the third lumbar vertebræ, which are sunk down, and bent forward within the pelvis.

6. A line drawn betwixt the ascending rami of the pubes, forming the brim of the pelvis, and measuring six-twentieths of an inch.

7. A line drawn from the fifth lumbar vertebra to line 6, and measuring one inch and one-twentieth.

8. 8. The sacrum bent forward upon itself, a part of which lies in contact with the fore part of the fifth lumbar vertebra.

9. The left ascending ramus of the pubes, which is folded over above the right ascending ramus.

10. That part of the os pubis which forms the superior anterior part of the thyroid hole, which is folded back upon itself so as to form the crescent 1, 9, 10.

11. 11. The symphysis pubis.

12. 12. The tubera ischii.

13. The right thyroid hole.

14. Right os femoris.

15. Left os femoris.

Fig. II. Represents the shape of the brim of the pelvis, and the uncommon degree of deformity of the several bones forming it.

A A. Alæ ilii folded in such a manner as to form nearly a semicircle, the ends of which converge towards the junction of the ilii with the sacrum, and diverge towards the superior anterior process.

B. Head of the right femur, which, with the acetabulum, is higher, and nearer the mesial line than the left, by reason of the ascending ramus of the pubes on the right side, which is bent so as to lie under that of the right.

D, E, F. The ossa pubis folded, and bent upon themselves, so as to be thrown completely out of the pelvis.

G. Body of the third lumbar vertebra.

H. Part of the os sacrum, as seen through the pelvis.

I. Part of the coccyx with its apex, as seen through the pelvis.

K. The spinous process of the ischium, as seen through the pelvis.

The distortion of the outlet of the pelvis is no less remarkable than that of the brim. A line drawn from the spinous process of the ischium to the point of the coccyx on the left side, measures only four-tenths of an inch, and on the right side, two inches and one-tenth. The space between the tuberosities of the ischia is eleven-twentieths of an inch. From the point of the sacrum to the spine of the ischium, right side, one inch and a quarter. From the same points on the left side, one inch and seven-twentieths. The sacrum seems doubled up upon itself, the fold of which rests upon the fifth lumbar vertebra.

Perth, Nov. 1, 1820.

Fig 1.

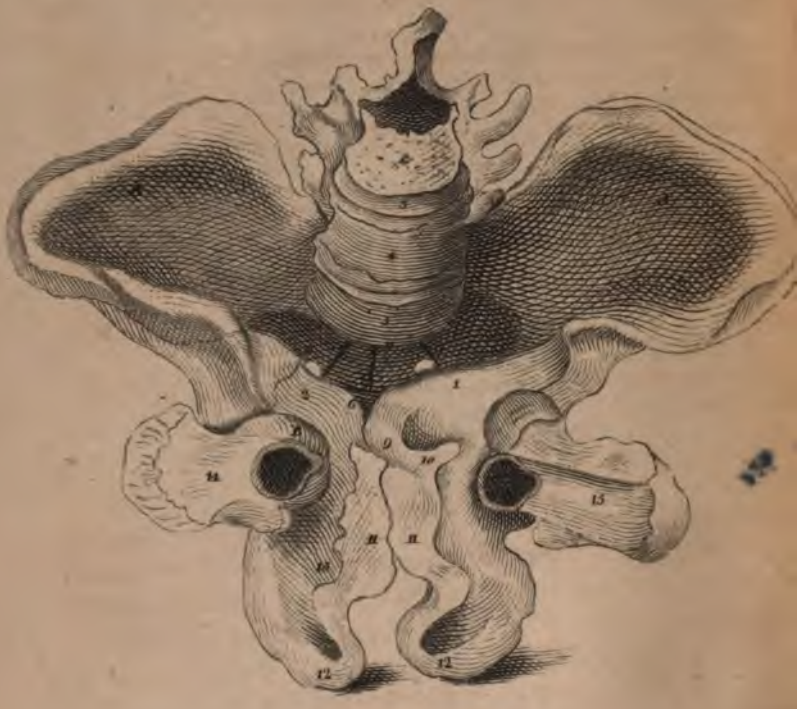

Fig 2

PART II.

CRITICAL ANALYSIS.

I.

A History of the Variolous Epidemic which occurred in Norwich in the year 1819, *and destroyed* 530 *individuals: with an Estimate of the Protection afforded by Vaccination, and a Review of Past and Present Opinions upon Chicken-Pox, and Modified Small-Pox.* By John Cross, Member of the Royal College of Surgeons, &c. 8vo. Pp. 296. London, 1820.

Much as the attention of our readers has been occupied, for the last two years, with documents regarding the subject of this work, we are confident that they will not regret our devoting a small portion of this Number to an analysis of its contents. It records the ravages of an epidemic small-pox, which has caused a greater mortality, in proportion to the population of the place where it appeared, than any other that has occurred in this country for many years, and much greater than we had hoped the small-pox was destined ever again to cause among the countrymen of Jenner. It furnishes very satisfactory documents to illustrate the protecting power of the cow-pox, and to elucidate other important, although subordinate questions, connected with the history of these diseases; and the industry with which Mr Cross has collected, and the intelligence and judgment with which he has arranged and generalised the most important facts which the epidemic presented, entitle him to the thanks of the profession, and deserve to be generally known.

The absence of small-pox for years together, from various towns or districts of this country, which had been constantly

infested with it before the introduction of vaccination, appears to have been owing more to the great diminution of the practice of inoculation for the small-pox, by which the sources of the disease had formerly been kept up, than to the prevalence of the practice of vaccination, by which a number of persons are now protected against the contagion. The town of Norwich, for example, appears, from Mr Cross's statements, to have been nearly or entirely free from small-pox from 1805 till 1807, again from 1809 till 1813, and again from 1813 till the end of summer 1818, when it was introduced by a girl lately arrived from York with her parents, who had been exposed to the infection on the road, and fell ill of the disease in Norwich. Several cases took their origin from this in the latter part of 1818, two of which were fatal. I nJanuary 1819, a druggist inoculated three children for small-pox, thereby helping to keep up the contagion. In February the disease got into one of the great charity schools; from this it extended to all quarters of the city, and "laid the foundation," says Mr Cross, "for the most extensive destruction of human life that has ever, I believe, taken place in Norwich in the same space of time, from any other cause than the plague."

In this year 530 persons died of small-pox within the limits of the bills of mortality, which do not include several hamlets in the immediate neighbourhood, where it also prevailed. Mr Cross adds, that having found, by observation derived from various sources, that about one in six of all who were affected with the disease died of it, he is satisfied that "considerably above 3000 individuals, or a *thirteenth part* of the whole population of Norwich, had the small-pox that year."

Mr Cross addressed a circular letter, containing queries regarding small-pox, to 93 practitioners of the county of Norfolk, and the adjoining part of Suffolk, 82 of whom stated in reply, that they had seen small-pox repeatedly in the year 1819, most of them to a great extent, of which we may judge from the fact, that 28 of the 82 had attended 598 patients in the casual disease, of whom 97 died, and had heard of 180 more deaths in persons whom they did not see, in the districts where they reside.

From these statements it appears that, great as was the number of deaths, the mortality of the disease, in proportion to the numbers affected with it, was not unusual. Of the unprotected persons seized with small-pox in Scotland during the late epidemic, and of whom Dr Thomson received accounts, one in four died; and when we take into consideration the practice generally employed at Norwich by the old women, who were the

most popular practitioners among the poor, * we may infer, that the contagion of the epidemic here recorded was probably *less malignant* than that which has been lately prevalent in Scotland. It is important to take every opportunity of impressing on the public mind the magnitude of the evil, the antidote of which it is the principal object of the work before us, and of all honest and intelligent practitioners, who interest themselves in the subject, to recommend.

In the present article, we shall lay before our readers what appears to us to be the most important information contained in this volume, as illustrating—*first*, the history of small-pox itself; *secondly*, the protection afforded by cow-pox; *thirdly*, the expediency of public measures to preserve the community from small-pox; and, *lastly*, the question of the identity of small-pox and chicken-pox.

I. The history of the epidemic at Norwich exemplified the observation which has been often made,—has been confirmed in this city, both last year and this,—and is highly important with a view to the prevention of the disease,—of its *great increase in the summer months.* "Est ut plurimum epidemicus, verno tempore primo incipiens, æstate crescens, languens autumno, hyeme sequente fere cedens, vere iterum eodem ordine rediturus." † Of the 530 deaths, 298 occurred in June and July; and "in June, when the greatest mortality occurred, 43 were buried from small-pox in one week." In like manner, in the town of Lynn, "the small-pox was introduced early in 1819, but did not spread with rapidity until the warm season." The knowledge of this general fact, as we are informed by Dr Monro, led the Bramins of India to begin inoculating for the small-pox in the month of February; and if the inhabitants of Norwich could have been made duly aware of this fact at the time when the disease began to spread in the year 1819, and had *then* taken the same measures to insure the protection of all who were liable to small-pox, which they actually took at a subsequent period of

* "The treatment pursued, when not interrupted by professional interference, was, in a few words, as follows: At the commencement, to set the object before a large fire, and supply it plentifully with saffron and brandy, to bring out the eruption; during the whole of the next stage, to keep it in bed, covered with flannel, and even the bed-curtains pinned together, to prevent a breath of air; to allow no change of linen for ten or more days, until the eruption had turned; and to regard the best symptom to be a costive state of the bowels during the whole course of the disease." (P. 11.)

† Boerhaave, Aphor.

the epidemic, the statements contained in the present volume are of themselves sufficient to shew, that they would have effectually arrested its progress.

Mr Cross states farther, what we believe is likewise the general case, that not only "the state of the atmosphere, during May, June, and July, disposed the system to receive the infection on slighter exposure than at any previous period since the introduction of the disease," but likewise "the virulence of the contagion seemed to keep pace with the increasing prevalence of the disease, and to be heightened in proportion to the number suffering from it. The first petechial case which I saw was in the latter end of May. After three or four months, the petechial forms were no longer observable, and the epidemic declined, by getting milder, as well as less frequent."

The epidemic appears to have presented in Norwich, as it did in Scotland, a great many varieties; but there seem to have been a greater number of petechial cases, generally attended with bloody diarrhœa, all of which proved fatal, although Mr Cross saw several examples of recovery where the pustules assumed a dark or purple hue, from their contents being mixed with blood.

Mr Cross saw a number of cases of fever with petechiæ, but without any variolous eruption, in the months of May, June, and July, when the epidemic was at the worst, all of which proved fatal. "The victims were mostly children, enfeebled by scrofula, or some other disease;" and, as several were seized with this disease, while others in the same family were suffering from small-pox, and as *no case of it occurred during the summer, in any one who had previously gone through small-pox or cow-pox*, he is very much inclined to ascribe every case of it to the variolous contagion. p. 67.

It appeared in this epidemic, as is usual, that a certain proportion of persons, although fully exposed and unprotected, resisted the contagion. To ascertain this number, as well as other points in the history of the disease, Mr Cross adopted a plan which we would strongly recommend to others, who may have similar opportunities. He kept a regular register of the effects produced by the contagion in 112 families, comprising 603 persons, into which it was introduced. In these families 297 had had small-pox before, and escaped, 91 had been vaccinated and escaped, excepting three, who had a mild disease, to be mentioned afterwards,—200, who were unprotected, took small-pox,—and 15, although unprotected, escaped, of which number 10 had been likewise exposed to the contagion before, with impunity. A collection of a few registers, kept with equal

care, and on the same plan, would weigh more with the future historian of small-pox and cow-pox, than many volumes of detached observations and general reasonings.

Another fact was likewise completely ascertained by Mr Cross, which is of very considerable practical importance, and which we do not recollect to have seen so unequivocally demonstrated elsewhere,—that the small-pox occurred, in several instances, in adults, "who had *at various times before resisted* the intimate and continued exposure to the contagion of that disease, and supposed, with some appearance of reason, that they should for ever be free from it." (p. 15.) He states, in farther confirmation of the possibility of this, that his father-in-law, Mr Bayly, surgeon, had been informed by one of the Suttons, with whom he was well acquainted, that "a man, who believed himself to have had the small-pox, lived for *twelve* years as a nurse in the establishment for the reception of inoculated patients, which the Suttons had near Norwich, continually waiting on the patients who were undergoing the disease; and at the end of that time he caught the small-pox, of which he died."

These facts are important, not only because they point out the danger of trusting to this kind of security against small-pox, but also, because they take away the force of the argument in favour of the supposition of the protecting power of cow-pox wearing out in time, which is drawn from the fact, of vaccinated persons being repeatedly exposed to the contagion with impunity, and nevertheless taking the modified disease on a subsequent exposure, as was the case with the son of Dr Hennen.* Accordingly, we are not surprised to find it stated by Mr Cross, and some of his correspondents, that they had seen modified small-pox in vaccinated persons, who had been re-vaccinated, and also inoculated with small-pox, without effect. pp. 106 and 285.

Mr Cross gives (p. 16 and 18) two very satisfactory cases of *regular secondary small-pox*, one after the natural, the other after the inoculated disease. Several other supposed cases of secondary small-pox occurred, but the evidence of the nature of the first eruption was not so satisfactory.† Ten of Mr Cross's correspondents, although not solicited on the subject, sent him

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* See Vol. XIV. p. 425.

† In one of these the disease was fatal. The parents of the child had conceived it to be perfectly safe, from the appearance of the previous eruption, which had left several scars.

information of cases of secondary small-pox, which had occurred to them both before and during the year 1819. Of these, three are stated to have been fatal. (p. 272.) Mr Cross met also with a few cases, which he conceived to be *modified small-pox after small-pox*, (p. 75 and 76;) and one of his correspondents mentions four of that kind, (p. 274.) When it is considered that a much greater number of people at Norwich appear to have been protected by small-pox than by cow-pox, his statements on this head appear to confirm the opinion we formerly hazarded, that this occurrence will be found considerably less common than the modified small-pox after cow-pox.

The only observation of Mr Cross on the appearance of the eruption of small-pox, which we shall quote, is, that of "vesicles formed of simple elevations of the cuticle, being often intermixed with the most regular pocks," in unmodified cases, "and small incomplete pocks often arising near them, which never present the indented character." (p. 139.) These vesicles we have often seen, and we would add, that they are often filled up two or three days before the principal crop.

II. In regard to the degree of protection given by vaccination at Norwich, the facts here recorded agree very exactly with what has been observed in Scotland. Mr Cross discovered in all, after "searching for such cases in every quarter of the city, and sparing no pains to examine all reports of such events to the bottom," six cases, in Norwich, where small-pox *ran its usual course in persons who had been vaccinated*, had been seen by medical men during the progress of the cow-pox, and had scars on their arms, which seem in all but one to have had the usual appearance. (p. 59, *et seq.*) Of these six two were fatal, one on the 11th day, the disease being confluent, the other on the 8th day, the pustules being intermixed with many petechiæ. Six of Mr Cross's correspondents also mentioned having seen regular small-pox after cow-pox, which was recovered from, (p. 281;) and five cases were reported to him of fatal small-pox after cow-pox, but there was evidence of the cow-pox having been regular, and left marks, only in two of these. (p. 277.) We mentioned in our review of Dr Thomson's work, several fatal cases having occurred after vaccination in Scotland, one of which was also a petechial case. Another was likewise anomalous; and of four others the particulars were not ascertained. Dr Thomson himself had not met with a single case of small-pox after cow-pox, which was not modified; but Dr Ramsay of Dundee, Mr Thomson of Alloa, and Mr Dawson of Liverpool, (three of Dr Monro's correspondents,) mentioned having seen the small-pox

ts regular course, after what had been conceived by medi-
en to have been perfect vaccination; and we have ourselves
three cases of that kind, in all of which there was satisfac-
vidence of the vaccination having been deemed perfect by
al men at the time when it was performed, and good marks
ned on the arms. But we have also seen three cases, in which
was equally satisfactory evidence of regular small-pox hav-
curred for the second time; and as we now know, that the
occurrence is by no means anomalous, it would be strange
did not occasionally meet with the former. We agree,
fore, with Mr Cross in thinking, that the fatal cases he re-
, " can have no weight against the practice of vaccination,
compared with 10,000 vaccinated individuals living in the
: of a contaminated atmosphere; with 530 deaths among
more than 3000 who had neglected to be vaccinated;
vith the occasional occurrence of regular small-pox in those
formerly had the disease."

ses of *modified small-pox, after cow-pox*, have occurred in
Cross's observation, certainly less frequently than in some
of Scotland, particularly at New Lanark, (see our number
April, p. 228,) but probably as frequently, in proportion to
number exposed to the infection, as in Edinburgh. After
cting a certain number of cases of eruptive disease, which
nceives to have been chicken-pox, Mr Cross has notes of
than thirty cases, which he is satisfied were modified small-
(p. 82;) and upwards of 100 cases of the same kind were
ioned to him by his correspondents, (p. 280.) In regard
e proportion of vaccinated persons exposed to the infec-
who take this disease, he professes himself unable to speak
confidence. Of 91 vaccinated persons in the 112 families
hich he paid particular attention, three had eruptive com-
ts at the time of his attendance, two of which he judged to
odified small-pox, and three more had probably the same
se towards the end of the year, (p. 36;) and, of 420 other
nated persons, 11 had eruptive complaints, most of which
probably of the same nature, (p. 38.) In all, he thinks,
t more than one in twenty persons will be in any way af-
d by the most intimate exposure to small-pox, and less than
n fifty will have the disease in a form answering to the ge
lly received description of modified small-pox." He ob-
s very justly, that, " at the present day, no documents can
ss much value, unless they help to ascertain the propor-
in which the vaccinated are likely to be affected by small-
contagion. If this object is not kept in view, a writer may
ct instances of failure or of protection, without answering any

other purpose than to shew the possibility of the one or the other, and without establishing which is the general rule, and which the exception."

Mr Cross devotes a larger portion of his work than we should have thought necessary (p. 77 to 122, and p. 182 to 192) to a circumstantial account of cases, and afterwards to general descriptions, of this modified small-pox, of which we do not think it necessary to say more, than that these statements agree perfectly with those which we have already inserted in different numbers of our Journal. The 15th case (p. 106) is a striking example of the most important of all the peculiarities attending this form of the disease, the absence of secondary fever. The only remark we have to make on these descriptions is one which applies to those of many other medical men, who have become authors since the discrimination of cutaneous eruptions has been an object of more study than formerly,—that the appearances of the eruptions are detailed with a degree of minuteness which is not only unnecessary, but in some instances oppressive; while too little attention is paid to the symptoms of the general fever.

In fixing the characters by which this form of the disease may be certainly known, Mr Cross lays much stress on the *indented character* of the pocks, seen not in all, but in some of them, on the 2d, 3d, or 4th day of the eruption, while the fluid is clear, and *before any crusting begins*. This character, he says, is to be seen in most cases of the disease, and in all in which the eruption has been abundant, or the symptoms urgent. Hence, although he does not conclude that every eruption which does not shew this character *is not* small-pox, he concludes (we believe quite correctly) that every one which does shew it *is* small-pox. In some milder cases, the vesicles "have never advanced so far as to present indented pocks," and have dried up in three or four days, without forming regular solid scabs; in several cases a rash has preceded or accompanied the eruption of modified small-pox; "and the mildest effect of the variolous contagion seems to be shewn in the production of a rash and sore throat, without any eruption of vesicles, or of febrile symptoms for a day or two, that subside without the appearance of any affection of the skin." All this agrees perfectly with our own observations.

Mr Cross quotes an account of an epidemic small-pox in the kingdom of Wirtemberg, in the years 1814, 15, 16, and 17, collected and arranged by Dr Elsasser, after an examination of all the official returns of the medical men to the government, by which it appears, that precisely similar effects have been produced

there as in this country, by the contagion of small-pox acting on the vaccinated.

"A few cases of regular small-pox after vaccination are allowed to have occurred; but, while tens of thousands of the vaccinated escaped, two only were ascertained to have died of the small-pox, who had been registered as having passed properly through the cow-pox. The variolous contagion, acting on a small proportion of the vaccinated, produced a mitigated or modified disease—the eruption not attaining more than half the size of the regular small-pox, being irregular as to appearance and progress, presenting in some pocks the indentation, unattended by secondary fever, and leaving blotches with convex surfaces on the falling off of the scabs. The interval between the vaccination and the occurrence of this eruptive disease varied from five to fifteen years, and was seldom less than the former number." —P. 180.

Precisely similar facts were observed in an epidemic small-pox which occurred at Rotterdam in 1817-18, and is described by Dr Hodenpyl. (P. 178-9.)

We presume none of our readers can think it necessary for us to consider the question, whether the eruptions thus described proceeded from the contagion of the small-pox or not? We may merely mention, that Mr Cross and some of his correspondents resorted to the unequivocal proof of inoculating unprotected children with the matter of this eruption, and thereby produced in them regular small-pox. (See p. 84, 87, and 284.) The results of these trials, of those of Dr Hennen and others recorded in Dr Monro's work, (chap. vi.) and of some similar ones made in London, (see Medical Repository, Vol. XIII. p. 228,) are amply sufficient to set this question at rest for ever.

In regard to the question, whether the power of cow-pox over small-pox is diminished by time? we have not so precise information, either in this or in any other of the late works on the subject, as might perhaps have been expected. All that is here said on the subject amounts to this,—that the modified disease has been seen at all distances of time, from a few weeks up to 20 years after vaccination; that the severest cases of it have been more than six years after it, (p. 198, 199, and p. 284, 285;) but that, at the distance of 14 and 20 years, the modifying power was unequivocally shewn, particularly by the absence of secondary fever, and the rapid convalescence, notwithstanding the great load of eruption. Three interesting cases, illustrating this point, are given at great length. (Nos. 14, 15, and 16, p. 101, *et seq.*)

Mr Cross has made some observations, which are both new and important, on small-pox and cow-pox occurring together in

the same individual. (Chapter iii. Part 1st.) It has been generally supposed, that when the areola has formed around vaccine vesicles, the constitutional effect is produced, and the patient is as effectually protected against small-pox as he will ever be. It was known, that the eruption of small-pox appearing within two or three days after vaccination arrests the progress of the vaccine vesicle, prevents the formation of the areola, and proceeds in its own progress without modification. In most cases, where the eruption of small-pox has come out at a later period of the progress of cow-pox, it has been much mitigated; and the sixth day after vaccination has been stated as the latest at which small-pox can appear, and afterwards run its regular course. Mr Cross, however, although he found that small-pox coming out late in the progress of the vaccine vesicle was *generally* modified, (thirty cases having occurred to him without one death,) yet has given three cases, seen by himself, and a fourth, seen by a friend, in which small-pox appeared on the 9th, 10th, 11th, and 12th day after vaccination,—that is, *after* the areola had formed,—yet run its regular course, and in the last instance (seen by his friend) was fatal. * Although, therefore, he most justly recommends to surgeons to vaccinate in situations where it is possible that the variolous contagion may have been already caught, as the small-pox, if not prevented, is *most likely* to be mitigated; yet he warns them, that no decisive opinion of protection by cow-pox can be given until the scab is about to fall off. And he very properly observes, that the mind of every surgeon, who vaccinates in these circumstances, should be strongly impressed with the possibility of small-pox coming out late in the progress of cow pox, running the usual course, and even proving fatal, notwithstanding that the cow-pox is going on regularly and properly; otherwise such a case may very probably be "mentioned as a failure of vaccination, and become the source of much injury to the public."

In regard to the important question of the cause of the occurrence of modified small-pox in a portion of vaccinated persons, Mr Cross inclines to the opinion, that it may depend on incomplete vaccination. In illustration of this, he gives a very instructive table (p. 30) of the progress of cow-pox in 500 persons whom he vaccinated, from which it appeared that 384 of these only were ascertained to pass through the disease satisfac-

* P. 47—55. It is observable, that, although the areola was not perceptibly lessened in these cases by the influence of the small-pox, yet the local effect of the cow-pox had been altered; for in the three patients who survived, the characteristic cicatrix did not remain on the arm.

torily. In 16 the vesicles were injured, and the natural progress of the disease stopped or altered. In 12, the appearance of the disease was deemed imperfect, independently of external injury. In 35, reiterated insertions of the ichor failed to produce a vesicle.* In 29, small-pox appeared; and 24 did not return. From this he concludes, that

"Incomplete cases of the disease, from rubbing, accident, or other causes, will, among the poor at least, *happen in as great a proportion* as modified small-pox in those who are subsequently exposed to the contagion." He adds, that "besides the interruption of the vesicle by rubbing, or the extraction of too much ichor, numerous other causes may interfere with the progress of the vaccine pock, which may be disregarded at the time, and subsequently, in the absence of a register, forgotten, particularly diseases pre-occupying the system at the surface of the skin." "Elsasser (of Wirtemburg) mentions, that in a district where scabies was so endemic, that not above one in fifty was free from it, numerous cases of small-pox, both modified and regular, occurred in the vaccinated, and on inquiry, it was found that a child with scabies had been vaccinated, from whom ichor had been taken, which produced an irregular and imperfect disease. An author, who recently undertook an investigation of the causes of failure of vaccination in Silesia, has related, that, in 1816, above 100 who had been vaccinated had small-pox, in the same district, and some of them died. It appeared that they had all been vaccinated by one surgeon, who was suspended from his office as vaccinator, while an inquiry was instituted by a medical committee, expressly appointed. It was ascertained that the surgeon had been in the habit of taking ichor as late as the tenth day, often from vesicles that had been rubbed or scratched, and had even raised an imperfect scab, to obtain what moisture he could from beneath it, to vaccinate with." p. 196.

We quote this passage at length, because we are strongly impressed with the importance of surgeons taking pains to procure perfect vaccine vesicles, and keeping registers of the cases they vaccinate. That some cases of failure of vaccination to protect against small-pox have been owing to imperfection of the process, no one can doubt; and at all events, minute at-

* Mr Cross remarks on these, that we should not decide hastily that a person is incapable of receiving the cow-pox, adding, that he had succeeded in producing one vaccine vesicle in a child, at the *sixth* attempt, after having made four punctures each time, and in every trial but one used ichor transferred immediately from a perfect vesicle; and he mentions one fatal case of small-pox, which might probably have been prevented by similar perseverance on the part of the surgeon, the child having been previously repeatedly vaccinated without effect. p. 90.

tention to this point can do no harm. But if it is meant to be inferred, that *all* cases of modified small-pox can be ascribed to imperfect vaccination, or that any marks are yet known, by which we can distinguish a vaccine vesicle, or set of vesicles, that can be safely asserted to be an infallible preservative against small-pox, we assert with confidence, that this inference is in direct opposition to evidence which we already possess. And without reverting to the statements contained in our Review of Dr Thomson's work, on this part of the subject, we see enough in Mr Cross's own book, to bear us out in this assertion. For although he has shewn, that in a given number of vaccinated persons *as many* present appearances of irregularity in the progress of the cow-pox, as are liable to modified small-pox afterwards, yet there is not only no proof, in his work, that the persons who take the modified small-pox are the same as have gone through the cow-pox somewhat irregularly, but there is proof that, in many instances, they are *not the same.* "The regular small-pox," he says, "may occur, and even prove fatal, after regular cow-pox," several instances of which were already given. "The modified small-pox has frequently been met with in those who had two scars from the cow-pox. I have known it where there were three, and others have met with it in those who had four, or even five scars." (p. 195.) Of the 14 cases of modified small-pox, which he details, (p. 77, *et seq.*) there are four, in which it is expressly stated, that the scar left by the previous vaccination was *perfect*, such, as Mr Cross (from his statement at p. 63) seems to think, must have proceeded from the vaccine pock having gone through its different stages quite regularly; in five others, the scar, although small, is mentioned as being indented or foveolous; and what is still more decisive, it appears from a very important table given by Mr Cross at p. 87, that of 57 vaccinated persons, who escaped entirely, notwithstanding "the closest exposure to the most virulent contagion," there were no less than 17, in whom the scars left by the vaccination were as exceptionable as they were in any of the cases where the modified small-pox appeared; having been small in eight, small and shining (instead of foveolous) in three, and *scarcely perceptible* in six. Of the 57, only 19 had more than one scar. Mr Cross himself has been protected by vaccination 20 years ago, which has left only one shining (*i. e.* irregular) scar on one arm. It has frequently happened at Norwich, in short, just as it has in Scotland, that vaccination which, as far as we know, was perfect, has given imperfect security, and that vaccination, which we should conceive to have been imperfect, has given perfect security; and *no medical man* can therefore be justified in promising that any

vaccine vesicle, or number of vaccine vesicles, however regular, will afford certain security against modified small-pox.

That this affords no argument whatever against universal vaccination, must be obvious, we think, to any one who reflects, that vaccination, if not so good an antidote against small-pox as it was once thought, is at least the best that is to be had. And that this is the state of the fact, no one can reasonably deny, who considers for a moment the protection that was actually given in the city of Norwich to 10,000 vaccinated persons. Of these we have seen that only two died of the small-pox, when a virulent epidemic visited the city, and affected almost every one who was liable to the contagion. Had these persons been protected by variolous inoculation, conducted in the best manner, and in the most favourable circumstances, at least 33 of them (1 in 300) would have died of the process intended to protect them; so that, in comparing the advantages of the two methods of protection, we have to weigh 33 deaths *certain*, against two, *contingent on the invasion of an epidemic small-pox*, and then we have to consider, whether there might not be nearly as great a chance of two persons out of 10,000, inoculated for small-pox, taking fatal small-pox on exposure, at a subsequent period of life, to a virulent contagion.

III. This is the chief consideration to be urged with those parents who may hesitate about the mode of protecting their own children against small-pox. The still more important consideration, that no one can be protected against the natural small-pox by variolous inoculation, without the strongest probability of his communicating the disease in its worst form to others, is one that ought to be urged, not to the parents of the children, but to the government of the country; and we were not aware, till we read Mr Cross's book, that so strong a case existed for the interference of the Legislature. It is quite obvious, that as long as inoculation for small-pox is permitted, any measures to prevent the diffusion of the disease must be absolutely nugatory. In Scotland, we believe that the practice is now nearly abandoned; and the general diffusion of the small-pox is to be ascribed merely to neglect of vaccination among the poor, partly owing to habitual indolence, and partly to a mistaken notion of the religious duty of resignation to the Divine will. But in Norwich, it appears that

"Variolous inoculation was practised on more than 400, each of whom thus became a centre of contagion," (p. 13.;) and in the whole of the neighbouring country, "itinerant inoculators, irregular practitioners, and old women, introduced and extended the dis-

ease to all quarters by inoculation; regardless of the admonitions given them, because the law authorized no direct measures against them. The disease was thus continually introduced into parishes previously free from it; and these consequences of the practice were made the subject of a representation to the Grand Jury, some of the magistrates of which body attempted, *without success*, to inflict punishment on the ignorant persons who wantonly committed so great an injury against the public. Many medical men, desirous of doing their duty by discouraging variolous inoculation, have been placed in the most unpleasant situations, and not unfrequently have been compelled to commit an act which they believed to be immoral and injurious, because they could not afford to sacrifice the small emolument arising from it; *some have reluctantly inoculated whole parishes of the poor, at the instigation or order of an overseer,* who probably did not know but the cow-pox was as contagious as the small-pox. It is lamentable indeed, if the legislature cannot interpose to correct evils and abuses, the existence of which has been felt and acknowledged by a very great proportion of the community." p. 219.

Of the danger to the individuals themselves of variolous inoculation, particularly when practised by the ignorant persons above mentioned, Mr Cross's Appendix contains the following proof:—" 38 country surgeons who from various motives practised it, lost, among those to whom they had thus given the disease, 21 patients; 14 surgeons reported that 55 deaths had been occasioned in the same way, within their knowledge; and five other surgeons observed, that they had known several who fell a sacrifice to the practice," (p. 272.) The number of the unprotected persons, to whom the contagion was communicated, in consequence of the practice, cannot of course be ascertained with the same precision; but nine of the surgeons, to whom Mr Cross addressed his circular letter, reported to him that

" The disease had been introduced into parishes, in which it did not before exist, by variolous inoculation. One surgeon states, that from the first person who casually fell down with small-pox in his neighbourhood, *forty* were immediately inoculated, spreading the disease in all directions. Another, that in four parishes out of five, where he had attended variolous patients, the contagion was brought by an irregular practitioner, who went about inoculating. A third, that a child went to an adjoining town to get inoculated, and became the centre, whence the contagion spread to the parishes under his care. A fourth states, that before the present year, he had repeatedly been able to prevent the spreading of the disease beyond the family where it originated; but that lately a man of bad character, and not at all acquainted with medical subjects, had for a small gain made it his business to extend the disease far and near. Mr Dix of Snellburgh,

found the small-pox in nearly all of the 42 parishes which he superintends, and to many of them it was conveyed by inoculation." p. 269.

Strong as are the objections to all legislative interference with the private concerns of individuals, which cannot be proved to be necessary to prevent injury to the public at large, we think no one who believes the state of the facts to be as we have now represented them,—that a parent who has his child inoculated for the small-pox, gives him a much less chance of escaping with his life, than he would have done by vaccinating him, and at the same time commits a grievous and incalculable injury upon his neighbours, which vaccination wholly avoids,—can hesitate to give his assent to Mr Cross's proposition, that

"A law should be passed, prohibiting variolous inoculation, by a severe penalty, except under the following circumstances,—where small-pox is already in the family,—where it breaks out in a family, and vaccine ichor cannot be obtained within two or three days,—where the individual is believed to have previously passed through cow-pox or small-pox,—or where vaccination has been already practised without effect." p. 223.

Mr Cross adds another exception, "where the patient is wholly secluded, so as to prevent the possibility of the disease spreading." But we think it may well be doubted, whether it is expedient for the legislature to yield so much to the unfounded prejudices of an individual, as to allow of this exception, particularly as it must be impossible to make any municipal regulations, which shall secure perfect seclusion, in all the situations where persons may wish to submit to this kind of inoculation.

Mr Cross recommends likewise, that persons who may casually contract the small-pox, should be "insulated, either in their own houses, or in buildings or rooms appropriated for their reception, and prevented by penalty from exposing themselves abroad, before the period is past when they are capable of communicating the infection." To this proposal our only objection is, the utter impossibility of executing it, without a much more efficient superintendence of these matters by magistrates and police officers, than we have any reason to expect they will ever exercise. There is another suggestion, however, to which this objection does not apply,

"That the parents, nurses, or medical attendants of any individual discovered to have this pestilential disease, in any court, street, town, or parish, where it did not before exist, might be required, under penalty, to give information of the same to a magistrate, who should be provided with a regular form for proclaiming the situation and

nature of the contagion, the dangers attending it, and the means
avoiding it." p. 221.

To this we would add, that we can see no objection to th
legislature acting on the suggestion long ago made by Dr Fe
riar, * "that *the keepers of lodging-houses should be subjected*
licences, which would bring them under the superintendence of t
magistrates." This, we are satisfied, from our own experienc
as well as that of others, would conduce very greatly to chec
the diffusion of this and other epidemic diseases, which are intr
duced into towns by beggars and vagrants; and very often sprea
from the low lodging-houses which receive them, as from a ce
tre. † If there were, as there might easily be, in every cons
derable town, permanent accommodation for the reception of
few patients in febrile diseases; and if the keepers of lodgin
houses were liable to the loss of their licences entitling them
keep such houses, if they did not give timely information
medical men, of every person falling sick in their house
this evil might be effectually controlled, without a greater degr
of exertion, on the part of magistrates and practitioners, tha
may be reasonably expected.

If public intimation were thus given of the small-pox a
pearing in any town, the first object would of course be, t
immediate vaccination of all unprotected persons; "and
would be," says Mr Cross, "very consistent with the most l
beral government, to direct magistrates, guardians of the poo
and parish overseers, how they may best proceed, and proclai
the appearance of small-pox in any district, with the laws r
specting it, and the preparatory steps to a general vaccination
Of the good that may be done by such measures for promotin
this object as are perfectly consonant with the spirit of the co
stitution of this country, the following fact, from the work b
fore us, affords a strikingexample.

"An individual falling down with the small-pox in June, in t
borough of Thetford, containing about 2100 inhabitants, Mr Bail
surgeon, gave information of it to the mayor, who immediately call
a meeting of the inhabitants, and from the able way in which the me
sure was advocated, vaccination was immediately determined on. Th
parish-officers visited every house, made a list of all those liable t
the contagion, and threatened to expose any individual who shou
refuse vaccination, or submit clandestinely to variolous inoculatio

* Proceedings of the Manchester Board of Health, p. 12.

† See Reports of the Committee of the House of Commons on the Fev
in Ireland, *passim*.

The list thus made was delivered to the two surgeons, and the bellman was employed to announce the hour on the following morning, at which all those requiring it might be vaccinated at the churches of their respective parishes. These prompt means were successful; about 200 were vaccinated, most of them in the course of two days, and were thus protected perfectly from small-pox, which extended only to eight or ten persons, all of whom survived." p. 267.

It is in the history of more despotic countries, that we are to look for exemplification, on a large scale, of the national advantage derived from general vaccination. From a statement furnished to Mr Cross by Dr Gordon, and which he had obtained from an extensive statistical work just published in Denmark, it appears that "since 1808, the small-pox no longer exists there, and is wholly unknown." In the *city of Copenhagen alone*, 5500 persons died of small-pox between 1788 and 1800, when vaccination was introduced; whereas the number that died of it in the *whole Danish dominions, from* 1802 till 1818, was only *one hundred and fifty-eight*. It is there the law, that all persons shall be vaccinated, and the bishops and magistrates are required to take care that no one be received at confirmation, permitted to marry, admitted into any school or public institution, or bound an apprentice to any trade, without complying with this injunction. "An annual report is published of the results of vaccination, which is judged to have been adequate by comparison with the numbers of births and burials." (p. 241.) A still more striking instance is furnished by the principality of Anspach in Bavaria, in which, as appears by a table given by Mr Cross at p. 248, more than one-fortieth of the population, that is, probably almost all the children that live to the age of six months, are vaccinated annually. In this district, in the year 1809, there were four deaths from small-pox, and since then, up to the end of 1818, not one had died of it. The deaths by small-pox in this district, in the years 1797, 1798, 1799, were above 500 annually, and in 1800 no less than 1609; and what makes this instance particularly satisfactory, the small-pox prevailed epidemically, and to a great extent, during 1814, 1815, 1816, and 1817, in every part of the immediately adjoining State of Wirtemburg. (p. 245.) In Prussia, in which the deaths from small-pox, before vaccination was introduced, were 40,000 annually, they were under 3000 in the year 1817, although the population has been considerably increased by an accession of territory; and in the department of Breslau, containing above 500,000 inhabitants, and in which one twenty-eighth of the whole population were vaccinated in the year 1818, although small-pox was introduced in the course of that

year, in nine different places, yet in consequence of the extensive vaccination, and of insulating all who fell down in the disease, only 28 in all took it, and of these 6 died. (p. 244, 245.) It is painful to contrast these undeniable proofs of the power that we possess of resisting the invasion of small-pox, with the example now before us, where "530 lives were, in less than a year, sacrificed to this disease, in an enlightened city, where humanity abounds, and charity seeks for every measure to prevent and relieve distress."

Mr Cross thinks that some advantage might be derived from having more than one national vaccine establishment, to supply lymph, (as that in London does, on an application being made, in an enclosure addressed to the Secretary of State for the Home Department,) free of expence to all parts of the kingdom. He recommends also a modification of the English poor-laws on this subject, which seems very necessary, to entitle the poor to be vaccinated at the expence of the parish in which they reside, and not of that to which they belong. But what he chiefly, and considering the habits and feelings of all ranks in this country, we believe justly, relies on, is the establishment of charitable associations for the diffusion of cow-pox; and he proposes a plan for the regulation of these, which we think deserving of the attention of our readers, although some simplification of it seems to us to be desirable, and perhaps necessary, before it is reduced to practice.

"An establishment should be formed in every town and populous district, supported by annual contributions, the amount of which should at least be sufficient to procure a house, where all applicants may be vaccinated on certain days of the week, and to answer the expences of a general census, in order to ascertain the numbers of those who require to be vaccinated. This census ought to be taken in the spring of every year, and each of the medical men who choose to be connected with this institution, and to offer their services, should engage to visit and to vaccinate all those desiring it at their own houses."

It should be a part of the object of this society also, he thinks, to get the earliest information of the introduction of the small-pox, and to provide a building for insulating those who fall down in the disease. The heads of families, he adds, should refuse to take into their houses servants liable to small-pox:

"And it should be a standing regulation of all charity schools, and extensive institutions for the reception of children, that none be admitted but those that have had small-pox or cow pox. This law existed and was acted on in a large establishment of the kind in Norwich, but the long absence of the small-pox brought the regulation into ne-

glect, and the consequence was that many died of the disease, and a portion of the benefits to be derived from the institution was lost to the public." p. 237.

IV. Mr Cross evidently inclines to the old doctrine, that chicken-pox and modified small-pox are separate diseases, although he expresses it, as every one ought to do in the present state of the inquiry, as a probable rather than an established opinion. The name most commonly given, in his neighbourhood, to the vesicular disease, which he thinks may be distinguished from any form of small-pox, is crystals or water-pox; and the following are the facts, which he has observed in regard to this eruption, which seem to bear on the question.

He gives, at p. 71, as a characteristic specimen of this disease, the case of a young lady, whose symptoms any one that takes the trouble to compare the descriptions, will find to be just those which Mr Bryce and Dr Abercrombie regard as characterizing the vesicular disease, to which they conceive that the name of chicken-pox ought to be restricted. In our number for April, we observed, that "if these gentlemen are right in their opinion regarding this disease, eruptions answering to this description will be farther distinguished by the following marks," in enumerating which we shall annex quotations from Mr Cross's book, to show how completely his experience, so far as it goes, coincides with theirs.

"1st, They will always give rise to eruptions similar to themselves." (Review.) "I have never met with these eruptions, rising into large pellucid vesicles, in those families where others had the small-pox. The disease is very contagious, but it seems to maintain its own character in being communicated from one individual to another." Cross, p. 74.

In a private communication, with which Mr Cross has favoured us on this subject, he says,

"I never found it in the same house with the small-pox, nor did I ever know it occur in a family where small-pox shortly afterwards made its appearance in those of the family who were not protected against it. My experience on these points corresponds precisely with that of several other respectable and observing medical men in this town."

"2dly, They will affect indiscriminately those who have had cow-pox, those who have had small-pox, and those who have had neither." (Review.) Mr Cross's general character of these eruptions is, that they "seem to have occurred indiscriminately in those who had passed through small-pox or cow-pox, and in those who had not had either of these disorders." p. 70.

The greater part of Mr Cross's patients, in this disease, ap-

pear to have been vaccinated persons, but he had seen in it two unprotected children, whom he afterwards vaccinated; and he "watched every step of the disorder in a boy who had, within six weeks, recovered from the small-pox, and whose body was still marked with the plum-pudding spots, from a numerous burden of the eruption." p. 78.

"3dly, They will furnish no protection against the future contagion of small-pox." (Review.) "I have not witnessed the progress of this eruption in any child which subsequently had the small-pox, but I have reason to believe that such an event has occurred." Cross, p. 74.

In the private communication above mentioned, he says,

"I met with regular and severe small-pox in two children whom I believed (from the history given me by their parents, and the appearance of the scars produced by it) to have had the vesicular eruption a few weeks before." Besides this, three children, whom he attended in modified small-pox, had, at different periods since vaccination, "had an eruptive disease which the physician attending called water-pox." p. 77.

The following case, from Dr Hodenpyl's account of the epidemic at Rotterdam, is still stronger: "Two vaccinated children, and one unvaccinated, in the same family, all had the water-pox. A month or two afterwards, one of the two formerly vaccinated had an eruptive disease," which was judged to be modified small-pox. p. 179.

"4thly, They will hardly ever be confluent, or dangerous to life." (Review.) "Complaints of this kind have been unattended with danger." (Cross, p. 70.)

Another fact, stated by Mr Bryce and Dr Abercrombie, to support the doctrine of a separate disease, was the regular progress of vaccination after the vesicular disease was completed. Six cases of this kind were mentioned in our Review of Dr Thomson's book, and we have since seen three more. Mr Cross "vaccinated two children with perfect success shortly after he had seen them with this disease, which, in both of them, had left several light-coloured scars;" (p. 74.) and Dr Hodenpyl had the same success in one case. p. 179.

In his private letter to us, Mr Cross says, "I have seen neither small-pox nor modified small-pox in Norwich since this year commenced, but I have seen two cases of the vesicular disease," the origin of which, however, he could not trace. We have seen a very recent letter from Dr Howitz of Copenhagen, in which he states, that although small-pox is at

present unknown in Denmark, they have occasional visitations of what they call chicken-pox, always without danger; and we can hardly suppose that vaccination has been so very general, even in that country, as to leave none capable of going through the small-pox regularly, if the contagion really exist among them. We have ourselves seen the vesicular disease in one family in the course of the summer, where it presented exactly the same phenomena as in the families mentioned on the authority of Mr Bryce and Dr Abercrombie, in our former number, (p. 256.) The first case of it that was seen, in a vaccinated child, was pronounced to be chicken-pox, and not modified small-pox; and afterwards it was found that the eruption had already appeared on one *unprotected* child in the family, in whom it presented the very same characters, and was formed into crusts within four days. We have also seen this vesicular disease in five children, all of them unprotected, living in the same house; and had the satisfaction of observing, that in all of them it followed exactly the same course, and there was no vesicle in all the five, which was not formed into a scab within four days from its appearance.

We mentioned in our former review, that we had seen the contagion of true small-pox produce, in the unvaccinated, particularly in very young children, an eruption which was merely papular and vesicular, forming into crusts within four or five days; but we added, that this was rare, and that the appearance of these vesicles, when seen sufficiently early, was, so far as we had observed, *clearly distinct* from that of the vesicular eruptions to which Mr Bryce restricts the name of chicken-pox. We cannot resist the pleasure of quoting from Mr Cross's private letter his testimony in favour of the correctness of that statement:

"I acknowledge that one of the defects in my short treatise is, my not having described the mildest form which small-pox assumes in the unprotected; but if I had described it, I should not have made it the same as, nor indeed very similar to, the mild vesicular disease commonly called crystals or water-pox."

Mr Cross proposes to apply the generic term Varicella both to the modified small-pox, (or the mildest small-pox just mentioned in the unprotected,) and also to the vesicular eruption described by Mr Bryce; and the following sentences, which are the chief parts of the definitions he gives of these two species of varicella, will shew the manner in which he distinguishes the two. The only particular that is new is the circumstance of the vesicle of the latter disease being only one cavity, that of the former several; and this we believe to be both just and important.

"*Varicella Cellulosa.*—The fluid of the eruption contained mostly in separate cells; the pocks often depressed in the centre, but sometimes presenting only conoidal and firm vesicles, placed upon a thickened basis of the cutis; incrustation taking place, without secondary fever, at various periods, from the third to the seventh day; scabs mostly flat and circular, and, on falling off, leaving tubercular elevations, or convex surfaces of the cutis. Produced by the variolous contagion.

"*Varicella Bullosa.*—The fluid *every where* * contained in vesicles composed of one cavity; the covering of the contained fluid delicate and easily broken; drying into small irregular crusts from the third to the fifth day, and, on falling off, leaving in every part a plane surface of the cuticle;† rarely leaving pits, except from scratching. It is doubtful if this eruption proceed from the variolous contagion; certain that it does not give rise to small-pox; and that it maintains the same character in all classes, whether occurring before or after cow-pox or small pox." pp. 207—209.

We are sorry to close our account of a work, in which we have found so much to praise, with an expression of disapprobation; but to this arrangement we cannot consent. We perfectly agree with Mr Cross that the name varicella has been very often given to both kinds of eruption; but we are quite clear, that the former disease (by whatever specific name it may be designated) ought to have the generic title of Variola; and that the separate generic name should be given to the latter, unless it shall be proved hereafter to proceed from the contagion of the small pox. If there is any principle in nosology which is fixed and invariable, we apprehend it to be this,—that two cases of disease, which spring from the same contagion, and either of which is capable of engendering the other, ought to be referred to the same genus; and that cases, which are believed to spring from different specific contagions, and neither of which is thought capable of engendering the other, should be referred to different genera.

Highly as we approve of the zeal and ability which Mr Cross has shewn in this work, we cannot close it without remarking, that there are evident indications of haste in the composition of

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* This is important, because in *regular* small-pox, as before observed, and in some cases of modified small-pox also, a certain number of such vesicles appear, mixed with the general and characteristic eruption.

† This we think too strongly expressed, and, at p. 201 also, Mr Cross speaks too confidently of being able to distinguish the eruptions in their later stages. (See Review of Dr Thomson, p. 253.) In cases of difficulty, we are satisfied that the eruption must be seen early, in order that it may be known with certainty.

were somewhat offended by various colloquial and in-
phrases, (particularly by the ungrammatical expression,
coming out with an eruption ;) and, what is more ma-
e arrangement of the work appears to us by no means
, and its length unnecessarily great. We mention
ects with the less hesitation, as we are persuaded that a
ection would enable the author to correct them in a fu-
ion.

II.

*ise on Inflammation of the Mucous Membrane of the
. To which is prefixed an Experimental Inquiry re-
g the Contractile Power of the Blood-Vessels and the
e of Inflammation.* By CHARLES HASTINGS, M. D.
cian to the Worcester Infirmary ; late President of the
Medical Society, Edinburgh, &c. pp. 420. 8vo. Lon-
820.

ave been much pleased with this volume, though, in a
greater degree, by the preliminary matter, than by the
the work. The latter treats of *bronchitis*, and is the
the author's experience since he entered upon the prac-
is profession ; while the former contains physiological
ological inquiries, to which he devoted much of his at-
when his medical studies were sufficiently advanced.
in the investigation of physiological questions depends
knowledge, ingenuity, and zeal of the inquirer. He
e and vary experience at his pleasure, until he comes
factory conclusion. But practical observation depends
e opportunities presented to us, and a long series of
attention is necessary for adding materially to the
ge of subjects which receive little elucidation from in-
speculation.

troduction to the present volume contains an inquiry
contractility of the blood-vessels, which already, as his
l dissertation, when he acquired the degree of M. D.
niversity in 1818, deservedly gained him great reputa-
contains both a very lucid and instructive view of the
ons and opinions of his predecessors, and the results,

and partly the detail of an extensive series of experiments conducted by the author. These relate successively to the proofs of contractility in the large arteries, in the capillary vessels, and in the veins. On the first branch of the subject he comes to the following conclusion:

"The inference from all these facts seems to be, that there is sufficient evidence of the irritable power of the larger arteries. It has been shown that these vessels are obedient to chemical and mechanical stimuli, and that the effects arising from the application of these stimuli resemble those which they produce when applied to parts decidedly muscular; and, therefore, it follows, that the larger arteries exhibit those vital phenomena which characterize irritability in muscular parts." p. 33.

This conclusion being at variance with the observations of distinguished physiologists, both in our own and other countries, such as both Drs Parry, Bichât, and Magendie, he examines their arguments at some length. He has given in a table the results of 25 experiments, in which various stimuli were employed, attrition, air, punctures, ammonia, and nitric acid, and from all of them, he observed contraction, either slight, or extensive, or irregularity of surface, or great increase of motion in the part of the vessel irritated. As Bichât and Magendie have both denied that alkalis excite arteries, we quote the following conclusive experiment:

"The abdomen of a full grown rabbit was opened, and the aorta exposed. The pulse was perceptible, but not very distinctly so; neither could those present say, positively, that there was lateral dilatation. Liquor ammoniæ was applied to the artery: its motion was perceptibly increased by it; and a second application of the stimulus being made, alternate dilatation and contraction were rendered very evident. A thread was then passed tightly around the aorta, and the ammonia again applied. The vessel, during its dilatation, rose much more above the thread after the stimulus was applied than it had done before. Each application of the ammonia produced a similar effect." p. 26.

The experiments on the contractility of the capillary vessels are 43 in number.

"It appears that the application of a stimulus often quickens the circulation in the small vessels, whilst the motion of the blood in a neighbouring part, to which no stimulus is applied, remains unaffected.

"That when a small vein or artery is touched by a stimulating substance, a contraction is often produced, so as to be visible by the help of the microscope. This contraction sometimes proceeds to such an extent as to prevent the free passage of the blood; and in

it does not accumulate, but takes a retrograde course. Dur-
contraction, if not sufficient to prevent the transit of blood,
ase of the ventricle is generally perceptible in all the vessels
unication with the contracted one, and the blood in the ca-
connected with the contracted vessels for the most part
lower.

at a stimulus, in the first instance, often produces a quicken-
on of the blood and contraction of the vessels; but after it
applied some time, dilatation of the vessels and a slower
nt of the blood follow: but after the vessels are dilated by
on of one stimulus, some other stimulus will often produce
tion.

iat the action of water, heated considerably above the tem-
e of the animal to which it is applied, often occasions con-
of the vessels and acceleration of the blood's motion; but
certain time, dilatation and retarded circulation ensue. Ice
y produces a contraction of these dilated vessels, and restores
city of the circulation.

hat ice kept in contact with the web of a frog's foot pro-
in the first instance, a contraction of the capillaries, and in-
the motion of the blood; but after a certain period, if the
tion be continued, the vessels become dilated, and the blood
slowly. A temperature of eighty degrees of Fahrenheit, how-
r the application of oleum terebinthinæ, again excites the ca-
to contract, and the circulation is restored to its natural

When the foregoing facts, and the necessary conclusions to
they lead, are maturely considered, it will be admitted that
pillaries possess a very considerable degree of irritability."
60.

experiments upon the irritability of the veins are fewer
aber, but the author thinks them sufficient to show,

t the veins are not insensible to stimuli, though certainly
ars that they are not so readily affected by mechanical stimuli
arteries are; from which it may be fairly concluded, that they
a lower degree of contractility." p. 63.

on the whole, we are of opinion, that Dr Hastings has con-
l and established incontrovertibly, that a considerable share
itability is possessed by the blood-vessels in every part of
stem, but most remarkably by the capillaries.

e treatise on inflammation commences with a preliminary
er on the general nature of inflammation, to which we
ly give an equal measure of praise as to the introduction.
having mentioned the opinions of Boerhaave, Cullen, and
Hunter, on inflammation, he states, that the doctrine
generally taught at present is, that inflammation depends

on an increased action of the vessels. An opposite opinion was, however, maintained so long ago as 1765, by Vacca Berlinghieri of Pisa; * and, probably without any knowledge of his ingenious, but whimsical treatise, was stated and ably defended by general arguments, in the Royal Medical Society of this place, by Dr Lubbock and Mr Allen. Afterwards, Dr Wilson Philip and Dr Thomson resorted to the aid of the microscope to obtain assistance in determining the question in dispute, but their observations did not exactly agree.

"Dr Philip maintains that inflammation consists in debility of these vessels, followed by an increased action of the larger arteries, and is terminated as soon as the capillary vessels are so far excited, and the larger arteries so far weakened, by the preternatural action produced in them, that the power of the capillaries is again in due proportion to the vis à tergo." p. 76.

While Dr Thomson says,

"That inflammation is sometimes attended by an increased, and at others by a diminished, velocity in the circulation through the capillary vessels of the inflamed part; and, consequently, that neither of those two states ought to be included in the definition which we give of inflammation." p. 78.

To attempt to reconcile these jarring sentiments, Dr Hastings entered upon an experimental inquiry. He operated chiefly on the web of a frog's foot, and observed carefully, by the microscope, the effects of mechanical violence, of heat, of cold, of diluted water of ammonia, and of an incised wound, upon the healthy web; and of ice and oil of turpentine upon it when inflamed. The results have been so well described by the author that we cannot venture to abridge his description.

"It appears that certain stimuli applied to living parts produce an increased velocity of the blood's motion, and a contraction of the blood-vessels. During this state of excitement, the part affected is so far from giving any thing like the appearances of inflammation, that the size of the vessels is diminished, and the part is paler.

"But if the stimulus be long continued, or increased in power, the small vessels, which in the natural state admit only of one series of globules, become so dilated as to allow an accumulation of a much less fluid and redder blood in them, which loses its globular appearance, and moves much more slowly than that which previously passed through the vessels. The part now appears inflamed. If the stimulus be removed, the vessels do not soon regain their original state;

* See Ed. Med. Journal, Vol. II. p. 79.

cessary to allow them to recover their contractile power, revent the impetus with which the blood is propelled by and larger arteries from keeping up the dilated state of the . Here, then, we are obliged to admit, with Boerhaave, is an *error loci;* for a denser and redder blood passes into els, which before carried much more fluid contents: but *loci* does not cause the inflammation, but results from the weakened state of the capillaries. In this manner the occasionally be extravasated in inflammation without any pture of a vessel, for the exhalents may be so weakened and to allow globules to pass through them.

he stimulus which produces the inflammation be of a very ure, debility of the vessels is frequently induced without ous excitement. The blood in all the smaller vessels be- y red, circulates very slowly, and in some vessels stagnates. application of a stimulus different from that which pro- ammation will sometimes bring on resolution. When this he dilated vessels contract; they no longer contain a red, mogeneous fluid, but again receive blood consisting of small lourless globules, which float in a colourless fluid; and the these globules at length becomes as quick as before the in- n took place. If, however, the inflammation proceed, the comes nearly stagnant; it continues very red, and the vessels dilated.

n this high degree of inflammation is not relieved, sphacelus The part then feels softer to the finger, and gives way with . The vessels are much dilated, the blood does not move, s red colour, and becomes of a yellowish brown hue. The of the dead from the living part takes place soon after this the colour of the blood.

lst the ulceration produced by this separation of the dead living part of the web is healing, the capillary vessels, dis- on the ulcerated surface and in the contiguous parts, are tended with arterial red blood, which is moved very slowly. ulceration is healed the vessels become contracted, and cir- fluids with the same degree of velocity as before the in- n was excited.

respect to the seat of inflammation, it may be observed, that aries are first affected; but even the small arteries of the lso occasionally distended." pp. 90—93.

changes that take place in the appearances of the blood in ed part are very important, but have not been particularly by those who have treated of the state of the blood-vessels mation.

he author's experiments, the weakened action of the smaller as always accompanied with an alteration in the appearance lood. In the natural state of this fluid, globules can be dis- een; but after inflammation has commenced the globular

structure disappears, the blood becomes redder, and the most minute capillaries are distended with it." pp. 94, 95.

We must refer to the work itself for the application of these observations to the explanation of the phenomena of inflammation; and we cannot conclude this part of our analysis without expressing our unqualified approbation of the liberal and candid manner in which Dr Hastings speaks of those writers upon whose opinions or observations he animadverts, and of holding up his style as a model of imitation to all who may engage in controversial writing.

The body of the work treats of the inflammation of the mucous membrane of the lungs, or bronchitis,—a term introduced by Dr Badham. One chapter is devoted to a short analysis of the opinions of preceding writers respecting bronchial inflammation, but he confines his attention too much to the recent British authors, although the subject has by no means been neglected by those on the Continent; and, in particular, we are rather surprised that no mention is made of Broussais or Laennec, although their pathological observations on pulmonary catarrh and other diseases of the lungs are highly interesting.

Dr Hastings divides bronchitis, in the first place, into acute and chronic, and of the acute he describes seven, and of the chronic, six varieties; in all thirteen varieties of inflammation of the mucous membrane of the lungs. Of the propriety of the multiplication of diseases we cannot approve. In our opinion, it tends to retard, not to promote the knowledge of disease. We admit that the division of diseases into species and varieties is purely arbitrary, but some principle must be kept in view, otherwise confusion, not elucidation, will be the inevitable consequence. We shall, however, state the varieties adopted by Dr Hastings, that our readers may judge of the validity of our criticism; and here we may express our regret that he has not always given the synonyms when they have been known by other names. Of acute bronchitis we have, 1. Mild bronchitis or common catarrh. 2. Bronchitis of the aged and feeble, the peripneumonia notha of authors. 3. Bronchitis in the strong and plethoric. 4. Bronchitis in infants. 5. Bronchitis after erysipelas, rubeola, and other cutaneous diseases. 6. Bronchitis complicated with diseases of the abdominal viscera. 7. Bronchitis rendered obscure by co-existing diseases, and unattended by its usual symptoms. And of chronic bronchitis we have, 1. Of the aged. 2. Resembling tubercular consumption. 3. After catarrh. 4. After cutaneous diseases. 5. From irritating substances acting on the mucous membrane.

6. Complicated with diseases of the abdominal viscera. After this enumeration, very little comment is necessary, as it is obvious that, with equally good reason, the varieties of this or any other disease might be increased from 13 to 130. It appears to us that he has not kept in view any principle to guide him in establishing his varieties. In fact, the genus bronchitis may be subdivided on many principles. Cullen would probably have distinguished it into idiopathic and symptomatic. But there is greater difficulty in applying this distinction in practice than is generally believed. Thus idiopathic bronchitis arises from cold, acrids inhaled, &c. When it occurs in measles, scarlatina, and continued fever, it may be considered symptomatic; but when it accompanies laryngitis, to which division shall we refer it? Or when it is vicarious, as with erysipelas, or is a sequela, as after measles, hooping-cough, &c.? In another point of view, bronchitis may be subdivided into simple and complicated, and, in the latter case, it may co-exist either with a similar affection of parts in continuity or contact, as in tracheitis and peripneumony, or with diseases of distant parts, as of the abdominal viscera. In its nature, it may differ in the rapidity of its progress, constituting the acute and chronic forms of the disease; in its severity, being mild or malignant; in being with or without predominant fever; in its extent, being general or partial. It may differ according to the exciting cause, which may be contagion in measles, scarlatina, and fever; an epidemic state of the atmosphere; exposure to cold or sudden alteration of temperature; the translation of other diseases; the direct inhalation or application of acrids. It will also differ very much according to the age or constitution of the person affected; in the infant, the adult, and the aged; the irritable, the plethoric, or the exhausted; in the healthy or diseased. Lastly, Its terminations may be various, in health, death, or some other disease. With different views, any one of these principles of subdivision may be selected; but if we attempt to combine them all, we shall have a nosology of bronchitis, and may have one of any organ of the body, as multifarious and extensive, as those which have lately become frequent in regard to the eye.

We shall now proceed with the analysis of Dr Hastings's work. His leading division is into acute and chronic. Of each, he describes in succession, the symptoms of the varieties, the appearances on dissection, the nature, ratio symptomatum, diagnosis, prognosis, and treatment, and to which he subjoins a selection of cases. Upon all these subjects our author writes judiciously, although, perhaps, even in a work professedly upon

inflammation of the mucous membrane, he has kept too much out of sight that of the other tissues of the lungs.

The last chapter of Dr Hastings's publication is dedicated to dropsy, as dependent on inflammation of the mucous membrane lining the bronchia. We readily concede to our author the merit of having pointed out more particularly the connection between these diseases, although it has not been so much overlooked as Dr Hastings seems to think; but while we are convinced that dropsy sometimes depends upon previous inflammation of the mucous membrane of the bronchia, we must bear in mind that it may also arise from affections of the other textures of the lungs. The treatment of the dropsy here treated of, as might indeed be expected, is generally antiphlogistic, but for the circumstances to be attended to, we must refer to the work itself.

III.

A Complete Treatise on the Nature, Symptoms, and Cure of Lues Venerea, Historical, Theoretical, Practical, and Original. By Jesse Foote, Esq. Surgeon. A new edition, amended and corrected. 8vo, London, 1820. pp. 420.

This is the work of an old and assiduous labourer in that branch of practice, which he undertakes to discuss. Many years have now elapsed since Mr Foote first set himself to oppugn what he considered the dangerous heresies of John Hunter; and, during these years, no professional subject whatever has undergone a more patient and candid investigation than the one of which he treats. This investigation has tended to amplify, to illustrate, and to confirm many of Mr Hunter's opinions. It does not, however, appear from the present publication, that our author's sentiments have undergone any correspondent change; he still goes on with a swaggering independence to speak for himself alone. "I am Sir Oracle; and when I ope' my mouth, let no dog bark." "Above all," he says in his Preface,

"I beg it to be understood, that this performance is theoretically and practically my own, that it is the result of my own observations,

and of my own practice. Theory is knowing what we do, practice is doing what is known. When theory and practice go not hand in hand, 'tis easier to teach twenty what is fit to be done, than *to be one of that twenty* to follow one's own teaching.' I most cheerfully submit this volume, not with that apology of toil and trouble which some authors pretend, who, like porters, on delivering a very light weight, take out their pocket-handkerchiefs to wipe the sweat from off their foreheads, in order to play upon generosity. I am not indebted to the work of others, nor do I enjoy the good of mercury, then civil the conditions. I have not come down at stated times to rummage the bookseller's compter for materials to work upon. When I think of such authors, it raises a smile, though mixed with pity, it reminds me of an animal called by naturalists the soldier. This little creature, says the historian, is passionately fond of a shell; but, not being supplied with one by nature, has recourse to the deserted shell of some other. I have seen these harmless reptiles, continues he, come down once a year from the mountains, rank and file, cover the whole shore, and ply busily about, each in quest of a shell to please it. Nothing can be more amusing than their industry upon this occasion. One shell is too big, another too little; they enter, and keep possession sometimes for a good while, until one is, at last, found entirely to please. When all are thus properly equipped, they march up again to the mountains, and live in their new acquisition till under a new necessity of changing." pp. vii. viii.

Mr Foot commences his work by some historical testimonies on the origin of the venereal disease, and upon this point evinces considerable information and research. In his fourth chapter, which treats of the nature and action of lues venerea, he discusses the question of the identity of the gonorrhœal and syphilitic poisons. Mr Foot is decidedly of opinion that they are one and the same virus acting upon different textures, but does not support his doctrine by any argument which has not been adduced (shall we say refuted?) over and again.

The two succeeding chapters are occupied with the consideration of gonorrhœa and its concomitant symptoms. Here our author seems obviously partial to the use of injections, and at page 113 recommends a solution of the carbonate of copper, for the preparation of which he gives directions, as one of the most successful remedies of this class.

Mr Foot then goes on to treat of chancre, in the appearances of which he admits of considerable latitude, and observes, as we think very justly,

"That one description will not answer for the appearance of chancre in every part, it will only answer for the appearance of every chancre in parts of the same nature; and still there will be a reference to the previous condition of the natural health of the same parts." p. 148.

The following chapters treat of bubo, and of the action of lues venerea on the constitution. In the last section of Chapter X. which is entitled "Other Venereal Constitutional Symptoms, at a more advanced Stage of Lues Venerea," our author quotes a passage from "Vigo's Practica Copiosa in arte Chirurgica," written in 1513, and some passages from Fracastorius, with a view to prove that the disease, particularly in its more advanced stages, exhibited the same appearances in the days of those authors as it does now. Upon this point we have, of late, become extremely sceptical, and, within these few weeks, a fact has been mentioned to us by an intelligent medical gentleman from India, which decidedly proves, that in that part of the world at least, the disease appears to be undergoing important and rapid changes. In one of the battalions of the Madras Artillery, to which the gentleman we allude to is surgeon, he had not, for nearly two years, a single case of syphilis in his regimental hospital, nor did any disease of the genitals whatever appear in his returns, with the exception of a few cases of gonorrhœa! Our friend had also access to know that in the other battalion of the Madras Artillery, very few cases occurred in the same period. What a contrast this to the scenes, which, less than seven years ago, we ourselves were in the daily habit of witnessing in the hospital of one of his Majesty's regiments serving on the Madras establishment, where it was usual to see twenty, thirty, forty, and, upon some occasions, not less than sixty patients affected with different venereal symptoms. But to return to Mr Foot; in his history of the remedies for the cure of lues venerea, he gives an account of the composition of the pills of Barbarossa, which were one of the first forms in which mercury was employed for the cure of syphilis. These pills suffered a fate, with which mercury and all its preparations, collectively and individually, seem to be threatened in the present day; and we quote the following passage as a warning to some ingenious speculators of our own time, who seem inclined to do with mercury, as some of the politicians of the day would have his Majesty do with his ministers; to banish it from their presence and councils for ever.

"To the red precipitate succeeded pills with crude mercury, the receipt of which was brought from Turkey, and they were called originally pills of Barbarossa. These, according to the testimony of Peter de Bayro, Physician to Charles the Second, Duke of Savoy, in 1540, consisted of twenty-five drachms of quicksilver, ten drachms of rhubarb, three drachms of scammony, one drachm of musk, one drachm of amber, and two drachms of wheaten meal; the whole to be made into a mass with lemon juice. A pill of this, of the size of a pea, to

be taken every night an hour before supper. Bayro relates, and I dare say with truth, that these pills were wonderfully successful. But they were introduced at a time when the reputation of mercury was fading, owing to that general and improvident abuse of it, by its falling into the hands of ignorant practitioners; for Bayro remarks, that, (such was then the impression on men's minds about mercury,) if any who had used this remedy were seized with a disease of whatever kind within ten years after, it was sure to be blamed for it.

"Such was the misfortune, and such the fate of a great attempt in the improvement of the use of mercury, from its being brought forward when prejudice was deaf to its value, and would not permit its merits to be weighed by the standard of truth. The abundance of forms in which mercury is now given, is the consequence of pharmacy being more enriched by chymical inventions posterior to this time. Man may generally be defined (and history concurs in the establishment of the fact) to be fickle, improvident, and abusive. And the definition will more strongly apply in this instance, than in any other which I am able to recollect. When Lues Venerea first appeared, such dejection and despondency prevailed amongst men, as to depress their minds to the lowest pitch of despair. But no sooner was the effect of mercury proclaimed, than its advantages were extolled as the only specific that could be depended upon.

"The abuses of this specific, the flagrant evils arising out of the improvident use of it, the frequent instances of those who had fallen victims to its poisonous action, excited a general clamour against it, and many preferred enduring the disease to the mercurial remedy." pp. 268-270.

We apprehend it is by this time hardly necessary to inform our readers, that Mr Foot is a determined mercurialist, and urges its exhibition in every form of venereal disease (gonorrhœa excepted) to an extent to which we cannot always go along with him; at the same time we fully agree with our author in considering it the business of the practitioner to regulate the supply of mercury in every individual case, and holding him answerable that it shall not be pushed to an injurious extent; we apprehend that many, very many cures have of late been protracted by the indiscriminate condemnation of this medicine in all cases, instead of holding the surgeon responsible for the extensive injury done by it in a few peculiar constitutions.

"Mercury, therefore, must not be hurried into the constitution; the action of it will be various upon various constitutions; the business of the practitioner is to ascertain, from consequences, the particular power of mercury upon every particular constitution, and to repeat and regulate the supply of mercury accordingly." p. 295.

In speaking of the mode of exhibiting mercury, our author gives a decided preference to its introduction by friction.

"The most preferable mode for the application of mercury I consider always to be by inunction: I consider it the most innocent and the most certain action. The violence which it commits upon the constitution in general, is the only violence which is experienced by it from this mode of introduction. No violence is done to any local part. But when mercury is given internally, there is a greater probability of a double violence being incurred through its action: a local violence, besides the constitutional violence. It will nauseate upon the stomach, it will stimulate the bowels, it will injure both, it will produce griping, and the dose will be obliged to be limited." pp. 303, 304.

On the internal exhibition of mercury, a communication was lately made to us by a scientific gentleman of this city, which we consider deserving of farther attention. This gentleman was some years ago recommended to undergo a course of mercury for the removal of bilious complaints, and being naturally fond of experiment, he was induced to try the effect of taking the medicine on a full stomach, with a view of obviating its irritating effects upon the bowels. In this way he took for several days six, and afterwards to the extent of nine of the common blue pills every day for a week, three after breakfast, three after dinner. and three after tea, without any unpleasant effect on his bowels, while, at the same time, the mouth became sore, and the usual constitutional effects of the medicine followed. There are many cases in which we conceive this plan might be adopted with advantage, and we mention it here for the purpose of soliciting communications on the subject, from any of our readers who may be disposed to try it.

At page 339 of Mr Foot's work, we have a specimen of that eccentricity of language which constitutes a remarkable feature in the present publication. In detailing the case of a young tradesman affected with phymosis, he observes, "the swollen state of the penis, from high and constant inflammation, had contracted the circumference of the urethra;" and then goes on to remark in a foot note:

"According to Mr Travers, such an explanation as mine must be exploded; for Monsieur Bishat has explained the same thing, which he thinks is done after a better manner, and therefore brought it from France (mark it)—"and that swelling of the parietes necessarily diminishes the calibre of a canal." Walls and Calibre, in anatomy, sound strongly ungrateful to the English ear. Round the city of Babylon, or in Woolwich-park, they would be much more a-kin. But in different and distinct ages, this corruption of words has not passed unnoticed. My objection to this Babylonish jargon is the humblest of the present and of the precedents of former ages.

"In the 4th scene of the fifth act of Shakspeare's Hamlet, Ostric, the Dandy of his day, bringing a challenge from Laertes to Hamlet, calls 'Hangers' (which were only side arms) 'Carriages.' Hamlet tells him, that the phrase would be more german to the matter, 'if we would carry cannon by our sides.'

"Sallust also has recorded from the speech of Cato in Cataline's Conspiracy, that the quantities of Dandies of that day had perverted and even lost the true use of words.

"'Nos vera Rerum Vocabula Amisimus.

"Cato apud Sallust.

"'Calcbyre and Walls!' 'Walls round Ulcers, and Walls round Aneurisms.'—Such are the ebullitions of *genius*, the boilings over from the furnace of Nature's work-shop, the Pineal Gland, or the waste of the dust of a diamond whilst it is polishing by an artist." p. 339.

We have thus endeavoured to convey to our readers some idea of this singular work, the production of a man sufficiently conversant with the practical part of his subject; it contains many just observations, and some good rules of practice enveloped in language not always the most intelligible. We do not consider Mr Foot a man likely to profit by any hint of ours; at the same time it is our duty to point out the sins which most easily beset him;—a want of perspicuous arrangement; and the adoption of a barbarous phraseology, which in many instances bears a very distant resemblance to our mother tongue.

PART III.

MEDICAL INTELLIGENCE.

To the Editor of the Edinburgh Medical and Surgical Journal.

In perusing your last number, Vol. XVI. I was particularly struck with the first paper, on the Profession of Physic in England, which contains a very important, and I dare say, correct history of the London College of Physicians. The matter is well arranged, and marked with much good sense. The concluding part, referring to the late and *only* act of the Apothecaries' Company, for the better regulation and practice of apothecaries, &c. is not understood by the author. With the exception perhaps of London and Bath, there are very few apothecaries, strictly so called, and they are very much reduced in numbers in the former city, from the inroads made by the chemists in compounding medicines; and from the distress of the times, young men are obliged to pursue the three branches of the profession to gain a livelihood. It follows, therefore, that the bulk of students must be young men, and that is the fact, who have served their apprenticeships to a surgeon and apothecary, either in London or the country. So far from this act creating a monopoly, the apothecaries will derive no benefit from it, except an improved education, classically as well as medically, but I am not aware their pecuniary interests will be improved by it. Hitherto I am convinced in this respect they have been losers. Previous to the passing of this act, the legitimate and well educated apothecary stood upon much higher ground generally than either the surgeon or surgeon apothecary. Perhaps it will surprise your author when I say, that for the last fifty years, very few of our eminent surgeons were acquainted with pharmacy, materia medica, or general disease, that was not immediately connected with their own department. The writer of this letter made an observation to Mr Astley Cooper two or three years ago on this subject, that he did not seem aware of, but which really is of

vital importance. The high character and superior talents of Mr Cooper secure to him a great proportion of students, whom he stimulates, both by example and precept, to be very industrious and attentive to their anatomical and surgical studies, and they are generally found to profit by his advice, and are sent home excellent surgeons. During their attendance at the hospital, cases of fever, erysipelas, and diseases in general, have been altogether overlooked, and when they sit down to practice, where one case of surgery occurs, there are twenty medical, to which he is comparatively a stranger as to treatment, although his anatomical knowledge, which is of the first importance I admit, may teach him the disease. This has been verified by the court of examiners, in the first two or three years of the bill. Students, in other respects well educated, were ignorant of the first elements; they were not able either to read or translate a physician's prescription grammatically, and sometimes not at all; they were not acquainted with drugs or their doses, nor with their pharmacopœia, and were equal strangers to all the important narcotic plants now so much in use in medicine. The operation of the act has produced an astonishing alteration in this respect; the court, however, have still to lament the deficiency of candidates in the Latin language, but not in the same proportion. The public are and will be materially and importantly benefited by this bill, and I can affirm, from personal knowledge of the facts, that with the first framers of this bill, the public, and not the practitioner, was the sole object in view in all its stages. If the author of this excellent paper has not seen what testimonials are required by the court of examiners, to prove the eligibility of candidates for examination, he will find, from the enclosed printed document, that the work is not superficially done, and that it is the respectability, and not the remuneration, which is comparatively trifling, which tempts gentlemen to accept of the important trust of an examiner. I have written this in a hasty manner, after the professional fatigues of the day; but I can with truth assure your sensible correspondent, that the powers vested in the Apothecaries' Company have been hitherto exercised with great liberality, at the same time fulfiling their duties conscientiously, both to the candidate and the public. Although this act is grounded upon the original act of their charter, the objects of the bill have nothing to do with the private and trading interests of the company, which are altogether distinct things, and does not affect their common privileges as previously enjoyed, with the exception of a small additional income from the examinations.

APOTHECARIES' HALL.

Regulations for the Examination of Apothecaries.

The Court of Examiners, chosen and appointed by the Master, Wardens, and Assistants of the Society of Apothecaries of the City of London, in pursuance of a certain act of Parliament, "For better regulating the Practice of Apothecaries throughout England and Wales," passed in the 55th year of the reign of his Majesty King George the Third, have determined:

That every person who shall be admitted to an examination for a certificate to practise as an Apothecary, shall be required to produce

Testimonials of having served an apprenticeship of not less than five years to an Apothecary, of having attained the full age of twenty-one years, and being of a good moral conduct.

He is expected to possess a competent knowledge of the Latin language, and to produce certificates of having attended not less than

Two Courses of Lectures on Anatomy and Physiology,

Two Courses of Lectures on the Theory and Practice of Medicine,

One Course of Lectures on Chemistry, and

One Course of Lectures on Materia Medica.

A certificate of attendance for six months at least on the Medical Practice of some Public Hospital, Infirmary, or Dispensary.

The Court have also determined, that the examination for a certificate to practise as an Apothecary, shall be as follows:

* 1. In translating parts of the Pharmacopœia Londinensis, and Physicians' prescriptions.

2. In Pharmaceutical Chemistry.

3. In the Materia Medica and in Medical Botany. †

4. In Physiology.

5. In the Practice of Medicine.

Regulations for the Examination of Assistants.

That every person who shall be admittted to an examination for a certificate to act as an assistant to any Apothecary, in compounding or dispensing medicines, shall be required to translate parts of the Pharmacopœia Londinensis, and Physicians' prescriptions; and shall be examined as to his knowledge of Pharmacy and Materia Medica.

Notice.

Every person intending to qualify himself under the regulations of this act, to practise as an Apothecary, must give notice in writing, addressed to the Clerk of the Society, on or before the Monday previously to the day of examination; and must also, at the same time, deposit all the required testimonials at the office of the Beadle, at Apothecaries' Hall.

The Court will meet in the Hall every Thursday, where candidates are requested to attend at half past one o'clock.

By order of the Court, JOHN WATSON, *Secretary.*

London, June 1, 1820.

It is expressly ordered by the Court of Examiners, that no gratuity be received by any officer from any person applying for information relative to the business of this Court.

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* The Court are extremely anxious to impress upon those persons, who may be intending to present themselves for examination before them, a conviction of the absolute necessity of such knowledge of the Latin language as may enable them to translate the Pharmacopœia Londinensis, and prescriptions of Physicians, which they consider as a qualification indispensable to the Apothecary.

They are particularly induced to give greater publicity to this regulation, because they have had the distressing duty imposed on them of withholding certificates of qualification from several persons, principally from their great deficiency in this most important prerequisite to a medical education.

† By Medical Botany is to be understood those indigenous plants only, which are contained in the Pharmacopœia Londinensis, and such indigenous plants as are esteemed of a poisonous quality.

Extracts from the Act "For better Regulating the Practice of Apothecaries throughout England and Wales."

That from and after the first day of August one thousand eight hundred and fifteen, it shall not be lawful for any person or persons (except persons already in practice as such) to practise as an apothecary in any part of England or Wales, unless he or they shall have been examined by the Court of Examiners, or the major part of them, and have received a certificate of his or their being duly qualified to practise as such, from the said Court of Examiners; who are authorized and required to examine all person or persons applying to them, for the purpose of ascertaining the skill and abilities of such person or persons in the Science and Practice of Medicine, and his or their fitness and qualification to practise as an Apothecary.

That from and after the first day of August one thousand eight hundred and fifteen, it shall not be lawful for any person or persons (except the persons then acting as assistants to any Apothecaries, and excepting persons who have actually served an apprenticeship of five years to an Apothecary) to act as an assistant to any Apothecary, in compounding or dispensing medicines, without undergoing an examination by the Court of Examiners, or by five Apothecaries, so to be appointed as hereinafter is mentioned.

That it shall and may be lawful to appoint five Apothecaries in any county or counties respectively throughout England and Wales (except within the said city of London, the liberties or suburbs thereof, or within thirty miles of the same) to act for such county or counties, or any other county or counties near or adjoining; and such five Apothecaries are authorized and empowered to examine all assistants to Apothecaries throughout the county or counties in regard of which such Apothecaries shall have been so appointed as aforesaid.

That if any person (except such as are then actually practising as such) shall, after the said first day of August one thousand eight hundred and fifteen, act or practise as an Apothecary in any part of England or Wales, without having obtained such certificate as aforesaid, every person so offending shall, for every such offence, forfeit and pay the sum of twenty pounds; and if any person (except such as are then acting as such, and excepting persons who have actually served an apprenticeship as foresaid) shall, after the first day of August one thousand eight hundred and fifteen, act as an assistant to any Apothecary, to compound and dispense medicines, without having obtained such certificate, every person so offending shall, for every such offence, forfeit or pay the sum of five pounds.

That no Apothecary shall be allowed to recover any charges claimed by him in any court of law, unless such Apothecary shall prove on the trial, that he was in practice as an Apothecary prior to or on the said first day of August one thousand eight hundred and fifteen, or that he has obtained a certificate to practise as an Apothecary.

That the said Master, Wardens, and Society of Apothecaries, do make annually, and cause to be printed, an exact list of all and every person who shall in that year have obtained a certificate to practise as an Apothecary, with their respective residences attached to their respective names.

Account of the Effects produced by injecting an Aqueous Infusion of Fox-glove (Digitalis purpurea) into the Jugular Vein of a Dog. Communicated by Richard Pearson, M. D.

In the following experiment the operation was performed by Mr Jukes, house-surgeon to the Birmingham Hospital, in the presence of Dr Booth, (one of the physicians to that institution,) and of my-

self. Immediately after the operation, Mr Jukes undertook to note down the result, which I transmit in his own words.

"*April 20th* 1820.—I exposed the external jugular vein of a small sized terrier, and injected two drachms (by measure) of the infusum digitalis, (of a blood-warm temperature,) containing $7\frac{1}{2}$ grains of the dried leaf. Before I could sew up the wound, the dog was seized with violent struggling, which lasted for a minute or two, followed by a drowsy state, though without sleep.* I make no doubt he would have remained several minutes in this condition, had we not have placed him on his legs. His pulse previous to removing him was 64 in the minute, (being about 7 minutes after the injection,) and evidently affected by the foxglove. In 2 minutes more, he voided a costive stool. Between the one-fourth of an hour and 20 minutes, his countenance depicted considerable anxiety, and he frequently elevated his head, putting his throat on the stretch. At the expiration of 20 minutes, saliva flowed involuntarily from his mouth. Pulse exceedingly small and intermittent, rarely exceeding 58 or 60 beats in the minute. At 22 minutes, he vomited, and in the effort caused a slight hæmorrhage from the wound. At 25 minutes he voided a small quantity of urine, seemed distressed, and began to run about. Pupils at this time had become widely dilated, but possessing the power of contraction on exposure to vivid light. No paralysis whatever.† At 35 minutes pulse even weaker, 60 beats in a minute; apparently more drowsy, or at least a frequent closing of the eyelids, but not insensible to noise. At 40 minutes, after exhibiting a sense of dryness of the fauces by motions of his mouth, he eagerly lapped water which was offered him. At 47 minutes he again lapped water, immediately after which he got up, stretched himself, and vomited up the whole. He then crept into a corner, and curled himself up for sleep. For several hours after he continued occasionally sick and lazy. The next morning he was quite recovered."

I cannot help availing myself of the present opportunity to remark, that no physiological experiments were ever so badly conducted as those by Courten, related in the 27th vol. of the Phil. Trans. Fifty grains of opium in an ounce of water, injected at once! One ounce of camphorated alcohol, in another instance, injected at once! One ounce of decoction of tobacco, used in like manner at once! Death, as might be expected, was in every one of these cases the result. But if only the 25th part of the opium solution, the 30th part of the camphorated alcohol, and the 40th part of the tobacco decoction, had

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* That is to say, a dull and quiescent state,—a state of collapse, but without actual sleep.

† Some days previously, 4 grs. of opium diffused in ʒii of distilled water, had been injected into the jugular vein of a different dog, producing in the first instance coma and stertor, and afterwards paralysis of the hind limbs. The animal was well the next day.

been injected, the animals (it may be presumed) would not have died, and the facts would have been interesting.

P. S.—In my former letter, I mentioned the circumstance of several persons in this neighbourhood having been last summer bitten by a mad dog. Excision of the bitten parts was resorted to at the time, (in one case not till three days after the bite,) and all have hitherto remained free from the disease.

Extract of a Letter from ROBERT LISTON, *Esq. Member of the Royal College of Surgeons, Edinburgh, to Dr* DUNCAN, *Jun.*

As you expressed your approbation of my mode of operating in cases of diseased bone in general, and more especially of the means employed in removing part or whole of the metacarpal or metatarsal bones, I beg you will allow me to state shortly the many advantages attending such plans of operating, and to illustrate the remarks with a few cases.

I was induced to turn my attention to the simplification of these operations, from the difficulty I frequently experienced in my first cases of this kind; but more so from witnessing many hundred cruel and protracted attempts, and frequent failures in the removal of such diseased parts. Hey's saws (as they are improperly called) can seldom be used with advantage, unless on the cranium; the half-headed trephines are worse than useless. The chain and annular saws, in any case in which I have seem them used, have either broken, or got so wedged, that it was necessary to cut them out by other means or sacrifice the limb. The whole of them require so much destruction of the soft parts before they can be applied, that even on this ground they are inadmissible.

From the reasons above stated, I was forced to turn my attention to the subject, and had cutting plyers made of different shapes and sizes, so as to operate in every direction. After having used them frequently, I found in a number of your valuable Journal, an account and sketch of a kind of scissars, which Mr Griffiths, an army surgeon, had used for some case attended with peculiar circumstances. His instrument, however, seems to differ materially from any of those I have employed, and would possess much less power. I am perfectly convinced that many extremities have been removed when the diseased portions of bone might have been advantageously cut out, merely from the difficulty of the operation, and want of proper means to accomplish it. The removal of the carpal or tarsal bones, and those connected with them, is in general considered one of the most difficult operations in surgery. To show the possibility of saving limbs, by the removal of the diseased part, in the most desperate circumstances, even when the health is much impaired, allow me to relate briefly two cases out of several on which I have operated.

May 1818.—C. B. æt. under 12 years, had disease of the ankle-

joint for two years and a half, rendering her completely lame. An opening on the fore part, discharging a great quantity of thin fetid matter, led to the diseased tarsal bones. Her health was much impaired. Pulse never under 120. All the symptoms of hectic. The amputation of the limb had been proposed by above a dozen of surgeons.

Dr Sanders had the kindness to consult me under the circumstances. He stated to me a case very similar, in which, many years before, he had, by the application of caustics, &c. removed the unsound parts, and produced a perfect cure. Encouraged by this, we agreed to make at least an attempt to save the limb, well knowing that the amputation would not be the less successful, if necessary. Accordingly, I cut down on the articulation, broke down the spongy carious bones, and removed with my forceps all the loose fragments. In a day or two the cavity was filled with red precipitate, and at the next dressings the remaining portion of the astragalus, articulating end of the tibia, or naviculare, and two of the cuneiform bones were pulled out. On the seventh day after the operation, violent hæmorrhage came on, but stopt spontaneously, nor could the place from whence it came be ascertained. In two days the bleeding recurred, and was then found to proceed from the lower end of the anterior tibial; this vessel was cut on, and secured by ligature. Granulations sprung from the end of the tibia, as also from the place occupied by the tarsal bones, and a complete and lasting cure, without much deformity or lameness, was the result.

—— Wilson, a man of an unhealthy look, about 25 or 30 years of age, hectic, from caries of the head of the right tibia of long duration. An opening on the outside of the tuberosity, close to the joint, discharged a profusion of fetid matter. Amputation had, by all the surgeons whom he had consulted, been proposed, as the only means of saving his life. I cut down on the part, by a large trephine applied twice, made room through the outer lamina, and by the cutting-plyers and scoop, removed the diseased parts, carrying my excavation to the depth of an inch and a half, and towards the joint, so as only to leave the cartilage betwixt me and the cavity. By the after use of the eau mercurielle the bone granulated, and the limb has become quite serviceable. By means of the sharp forceps, the cutting edge of which is on a line with the handles, we are enabled, with the greatest ease, to cut across any of the metacarpal or metatarsal bones, and even the radius, ulna, or ribs. The use of these instruments requires a considerable degree of strength, but it is to be remembered, that in such subjects as these operations are requisite, the bones, from the scarcity of earthy matter, are more easily divided. By means of those instruments it is quite possible to remove any portion of bone with less division of the soft parts, and by as smooth a surface as by any saw, however fine. So simple and speedy is this operation, that I even prefer the use of the forceps to the saw, in cases where it is necessary to remove the finger or toe.

It is unnecessary for me to relate cases in confirmation of what I have advanced, as any surgeon can satisfy himself by a trial on the dead body, of the efficacy and safety of the instruments. Suffice it to say, that I have used them in a great variety of circumstances, and on almost every bone of the body, as well in the removal of diseased portions as in amputation. Any of these operations may be accomplished in a few minutes, if even minutes are necessary. I may mention, that I have found these forceps most useful in dissections, for dividing the ribs, &c. and likely, for that purpose, completely to supersede the saw. I may also notice, that I am in the habit of using, in cases of necrosis and others, very strong forceps or plyers for the removal of spiculæ, as I have seen more pain and suffering from the slipping, bending, or breaking of the commonly-employed contrivances, than I should choose to describe.

By referring you to Mr Young, a most ingenious cutler in College Street, who has patterns of all the different forceps, and who will be happy to supply any gentleman with them, I shall be saved the trouble of sending you a representation, or giving any particular description of them.

By supplying a deficiency in the instruments for our operations on the hard parts, I hope it will not be supposed that I am an advocate for new or complicated contrivances for any surgical proceeding.

George Street, Nov. 17, 1820.

Extract of a Letter from Dr DICKSON *of Clifton to Dr* DUNCAN, *Jun.*

You have probably already heard of the death of Mr Baynton, which, I lament to say, took place soon after my last brief communication relative to his treatment of mortification of the extremities by pressure, inserted in the 65th number of the Medical and Surgical Journal. I need not tell you that Mr Baynton enjoyed a high and extensive degree of professional reputation and employment. To those who knew him personally, it is as little necessary to bear testimony to the obligingness of his disposition, and the goodness of his heart; for, sanguine in prognosis, and successful in practice, he was equally fortunate in gaining the confidence, and in preserving the friendship of his patients, by a large circle of whom he is deeply and deservedly regretted. He was also well known as the author of two valuable practical works, suggesting improved methods of treating ulcers of the legs and diseases of the spine; the merits of which must be rated very high, if the number of patients which they attracted to him from various and distant parts of the country be admitted as any criterion. Having been in habits of intimacy with Mr Baynton, I have upon several occasions heard him mention his intention of publishing a second edition of the latter treatise, which the fulness of his professional avocations caused him from time to time to defer; but, in justice to him, I ought to observe his having repeatedly noticed to me, that much additional experience since its publication in 1813 had, in his estimation, fully estab-

lished and confirmed his favourable opinion of the plan of treatment therein recommended.

I have lately been favoured with some important communications from Dr Jenner, on the effect of serous or herpetic eruptions of the skin, and of the scalp, (more especially a dirt-like exudation from the latter, which has too often escaped observation,) in modifying and even destroying the protecting influence of vaccination. I enclose an interesting extract from one of his letters, on what have been called varioloid diseases; and, with his permission, would have requested you to publish it, did not the following sentence of a letter just received from the celebrated writer render this step unnecessary:— "I am about to issue a circular, which will embrace more detail than I have communicated to you, and which it is my intention to promulgate through every accessible channel of publicity. This will form the mere anticipation of a paper, which I intend to give within the earliest convenient period of time, treating this important subject in a more comprehensive manner than has yet been designed."

Dr James Clarke.

In the death of this much lamented young gentleman an unspeakable loss is sustained by society at large, and by that profession in particular to which he promised to be an ornament, and was already an honour. Born to affluence, (through the signally successful career of his universally respected, and now much to be commiserated, father,) he nevertheless applied himself to professional pursuits, as if they were to be the source of his comfort and respectability in the world; if he even intermitted them, it was to employ a short interval among his tenantry, that he might know their wants, and omit no means of improving their morals, and ministering to their comfort. Cold, caught in one of those rapid excursions, seems to have specially predisposed him to contagion in the fever-hospital,* with the care of which he had charged himself. Most justly, therefore, may he be regarded as having fallen a sacrifice at once to public spirit and to private virtue. How universally he was esteemed was shewn by the anxiety which was manifested for him while hope remained, and by the gloom which on the last day of his life seemed to pervade the city. In the judgment of those who knew him best, a more noble-minded, generous, and worthy young man, without exception, never existed. He died at his house in Rutland Square, Dublin, on Thursday the 5th instant, in the 33d year of his age.

ERRATA.

In the last Number two errors occurred, which it is necessary to correct without delay.

The case of Accidental Poisoning, at page 510, was *communicated* only by Dr Thomas; it was *written* by the husband of the lady to whom the accident happened.

The remarks on the Use of Nitric Acid as a Blister, p. 544 and 545, were written by Mr William Scot, and not by Mr Killett, to whom they were ascribed by a transposition of the communications.

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* House of Industry.

THE

EDINBURGH MEDICAL AND SURGICAL JOURNAL.

No. LXVII.

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NOTICES TO CORRESPONDENTS.

Communications have been received from Drs Arthure and Knox; and Messrs Baird, Dawson, Nicol, Swan, Wayte, Kind, and Theoreticus.

We have received for Review:

A Manual of the Diseases of the Human Eye, intended for Surgeons commencing Practice, from the best National and Foreign Works, and in particular, those of Professor Beer; with the Observations of the Editor, Dr Charles H. Weller. Berlin, 1819. Translated from the original German work, and illustrated with Cases and Observations. By George C. Monteath, M. D., &c. Two Vols. Plates. 8vo. Glasgow, 1821.

A History of the Epidemic Fever, which prevailed in Bridlington and the Neighbourhood, in the years 1818 and 1819. By Humphry Sandwith, Surgeon, Bridlington. Also Observations in Medicine and Surgery, by Thomas Sandwith, Surgeon, Beverley. 8vo. Lond. 1821.

Cases illustrative of the Treatment of Obstructions in the Urethra, &c. by the new Instrument, the Dilator; with further directions to facilitate its general adoption: also a Case of the Extraction of Stone from the Male Bladder without cutting it, by the Dilator; with an Account of Improvements of the Method of Dissolving Stone by Injection, and of the common operations of Lithotomy, By James Arnott, Member of the Royal College of Surgeons in London. 8vo. Lond. 1821.

Practical Observations on the Use of Oxygen, or Vital Air, in the Cure of Diseases; to which are added, a few Experiments on the Vegetation of Plants, illustrated with Five Engravings. By Daniel Hill, M. D. Surgeon, Honorary Member of the Medical Society at Guy's Hospital, and Fellow of the Horticultural Society. 8vo. Lond. 1820.

Versuche ueber die Wege auf welchen Substanzen aus dem Magen und Darmkanal ins Blut gelangen, ueber die Verrichtung der Milz und die geheimen Harn-Wege. Von. F. Tiedemann und L. Gmelin, Professoren in Heidelberg. 8vo. Heidelberg, 1820.

A Dissertation on the Treatment of Morbid Local Affections of Nerves; to which the Jacksonian Prize was adjudged by the Royal College of Surgeons. By Joseph Swan, Member of the Royal College of Surgeons, &c. 8vo. Lond. 1820.

An Account of a New Method of making Dried Anatomical Preparations. By Joseph Swan, Member of the Royal College of Surgeons, &c. 8vo. Lincoln, 1820.

A Statistical Inquiry into the Frequency of Stone in the Bladder, in Great Britain and Ireland. By Richard Smith, Esq. Senior Surgeon to the Bristol Infirmary. 8vo. Lond. 1820.

Revue Medicale, Ire Année VIe Livraison, and IIe Année, Ire Livraison.

The Editors are preparing a General Index to the Edinburgh Medical and Surgical Journal, which will probably be published soon after the Twentieth Volume.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. APRIL 1821.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Sketch of a Plan for "Memoirs on Medical Topography."

We now proceed to redeem the promise made in the 65th number of this Journal, and offer to the consideration of our readers a plan upon which it appears to us that the medical topography of a town, a district, or a country, may be advantageously drawn up. That in preparing this outline, we have either exhausted the subjects of inquiry, or even that we have indicated them all, we are very far from supposing; but we trust it will be found that few points have been entirely omitted which are essential to the medical topographer; and we are convinced that, taking the present hints as the basis of his inquiries, he may render important services to science in general, while he materially assists himself in attaining a knowledge of external circumstances which exert considerable influence upon the health of those among whom he may exercise his profession. *

* We take this opportunity of noticing an omission in the article on the "Medical Topography of Canada," which has called forth the present sketch; we allude to a paper by Mr Royston, in the Medical and Physical Journal, Vol. XXI. which should have held a prominent place in our enumeration of British authors.

We shall divide our objects of inquiry into four general heads, and these, again, we shall subdivide into specific subjects. Under the first head we shall include the Physical Geography of the place to be described, comprising notices on its botany, mineralogy, and natural history. The second head will refer to the Inhabitants, including an account of their food, habitations, customs, &c. Under the third head will be classed such subjects of inquiry as are connected with Diseases whether endemic, epidemic, or sporadic; which appear under the form of epizooties among the lower animals; or which affect the products of vegetation. To the fourth head will be referred miscellaneous objects of inquiry, or such as could not be so well arranged under any of the preceding. Many of the subjects are so closely connected that they fall under more than one head, and they will be treated most in detail in that division of the subject under which they seem most naturally to range themselves.

I. *The Name—the Latitude, Longitude, and Boundaries.*—These heads require little or no comment. If the place to be described is extensive, it will be necessary to note whether the situation is insular, or a part of a continent. If it is only a small district or town, it will be necessary to state what distance it may be from the sea, and what elevation above it; what distance it may be from the metropolis, and the modes of communicating with it.

The Seas—the Rivers—the Lakes—the Wells—the Morasses—the Bogs, and the Canals.—These are points upon which the topographer should bestow considerable attention, as they so materially affect the dryness or moisture of a country. The nature of the deposits, animal, vegetable, or mineral, which are left by the waters, should be accurately ascertained; as on them, especially in warm countries, the most important consequences depend. The height to which the tide may rise in a river, as well as the rapidity or sluggishness of the stream, will materially affect these depositions, while the physical features of its banks, and the tortuosity of its meanders, will possess considerable influence by concealing or exposing them to the sun and the winds; hence also the depth of the waters, the soil through which they flow, or in which they stagnate; the height of the banks, the materials of which they are composed, the shelter which they afford, the nature of that shelter, whether of sedge, underwood, full grown timber, or rock, should all be pointed out, and the accidental or periodical accumulations of filth or alluvial materials which pollute or enrich the stream,

should be described. The inhabitants of the waters, as well as their vegetable products, become incidentally an object of investigation, as they may conduce to the nourishment or the destruction of man; and, as many of them fix their "habitat" in waters peculiar for their rapidity, their clearness, or their slime, their presence may often distinctly mark the existence of such peculiarities. The surface for evaporation presented by the canals, the rivers, and other masses of water; the aid which they may contribute to the drainage of a country; the facilities which they may afford to agriculture and commerce; and the fitness of their waters for culinary purposes, are all objects of investigation. The state of the subterraneous moisture should be inquired into; and this is frequently demonstrated in low marshy countries, as Zealand, by the state of the wells, which are fed by the subterraneous water with which they are on a level. Indeed, the comparative healthiness of the villages in the Netherlands is easily ascertainable by the inspection of their wells, the waters in which sink in proportion to the droughts of summer, and afford a proof of the constant exhalation of concealed moisture.* The nature and effects of those exhalations which arise from low muddy beaches should be specially inquired into, and no opportunity should be lost of ascertaining a point which seems not yet to be perfectly agreed on, viz. how far the admixture of fresh water may accelerate or retard the corruption of the animal and vegetable materials deposited upon them.†

The Mountains—Their height, extent, and general direction; the snows with which they may be covered periodically or throughout the year; the rivers or streams which may arise in them; the forest timber, plants, and minerals with which they may abound; the passes through them, and the influence they may exert over the currents of the winds; the interjacent vallies, and the state of their temperature, compared with that of the surrounding elevations, should all be noted.‡

The Climate.—A complete system of meteorology is not only unnecessary for the purposes of medical topography, but is of such difficult execution that the life of man seems inadequate to effect it; it is absolutely necessary, however, that some of the leading facts connected with the physical characters and

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* Pringle, Diseases of the Army, Chap. 1. Part I.

† Vide Lancisi De Nox. palud. effluv. Lib. I. P. I. Cap. 5.

‡ In general for every 200 feet of elevation one degree of decreased temperature may be expected. The effects of the funnel-shaped chasms in the Ghauts of India, in tempering the heats of that country, are most remarkable.

medical effects of the climate should be given. The steadiness or mutability of a climate is a physical property which seems more to influence the health of man than either its heat or its cold, abstractedly considered; and a knowledge of this can only be acquired by long and correct personal observation, or by averages drawn from the observations of several preceding years. Dr Chisholm has given us a very good idea of the climate of Bristol and Clifton by an average table of the number of wet and dry days for a period of fourteen years together, with an account of the prevalent winds upon the same principle. Dr Clarke also has given us some good views of the temperature of Nottingham. * In whatever mode the topographer may choose to proceed, he should give accurate accounts of the highest, lowest, and medium states of the thermometer, barometer, and hygrometer, for two or three years at least, together with an account of the prevalent winds, and the occasional fogs, meteors, hurricanes, &c. It must be observed, however, that nothing can be more jejune and uninteresting than a protracted enumeration of the daily variations of the atmospheric temperature, weight, and moisture, or of the different shiftings of the winds, if the person who describes such occurrences does not deduce from them some practical information, by marking the effects which they produce upon the health of man and upon the face of nature. Hence it is that many of those volumes which have cost their authors the minute labour of years to compose, lie so often unconsulted amid the lumber of the library; but if to the changes of the state of the atmosphere is added an account of the manifest influence which they have exerted on the health of those who were previously well, or on the diseases of the sick and convalescent,—then an otherwise trivial piece of information is converted into an interesting and an instructive fact. In like manner, if any particular state of the weather has a marked effect upon vegetation, it may consecutively produce a very powerful influence upon the health of the inhabitants of the district where it has prevailed. Upon the whole, while the medical topographer should by no means neglect minute and regular observations upon the changes of the weather, he should consider them not as a primary object of research, but should view them as merely subservient to the great purpose of explaining the origin and progress of disease; and it is by comparing the cause and the effect together, and repeating the comparisons faithfully and frequently, that regi-

* Ed. Med. and Surg. Journ. Vols. V. VI. and XIII.

sters of the weather can ever be made available to useful purposes; or, as it has been happily expressed by a contemporary journalist, can "illumine that darkness of conjecture, reconcile that contrariety of assertion, and reduce to a rational system that facility of belief which has so long existed upon atmospherical influences." These comparisons should be fully stated in detail, for few readers will stop in the course of their perusal to refer to an appended weather table, and wade through the slow, dull, and dubious process of comparing degrees of the thermometer and the anemoscope, with the variations of health. These records lose their utility and their interest by separation, and it is in vain to deny, that the most faithful recital of facts will often fail to make any impression, if they entail on the reader extraordinary and monotonous labour.

There are such a multiplicity of forms for registers of the weather, that the topographer can be at little loss in selecting a model, or in procuring from the observatories of large towns correct and satisfactory details; but it would be extremely desirable that the degrees of the thermometer in the sun, to which the labouring classes are so much exposed, should be occasionally stated; and it should also be kept in view, that, if the observations are made uniformly at the same hour of the day throughout the year, the atmosphere will have felt the influences of that planet for a much longer period at some seasons than at others, previous to registering the height of the mercury. In detailing the state of the winds, it will be of essential importance to describe what tracts of land or water they blow over, and how far these may influence the deposition or absorption of heat and moisture, may alter the direction and force of their currents, or may affect the exhalations which they import or carry off; extensive tracts of forest will greatly modify the effects of the wind, and even a comparatively small number of trees will act as a check on healthful ventilation, or will intercept the baneful miasmata of marshes. The ordinary effects of the atmosphere on inanimate substances should be noticed; in some districts all polished metal speedily rusts, and the existence of saline particles in the air is inferred in others, by the remarkable fading of those dyed stuffs which require acids to fix or heighten their colours.* Some peculiar states of the atmosphere have been observed to precede certain epidemic affections; thus, Dr Rush states, that substances painted with white lead, and exposed to the air, have suddenly assumed a dark

* Chalmers's Diseases of South Carolina, Vol. I. p. 11.

colour, and that a smokiness or mist in the atmosphere has generally preceded a sickly autumn in some of the American states.* Although we are ignorant of the causes, we know that the long prevalence of certain winds frequently predispose the living body to disease; the effects of various winds are also remarkably displayed in the phenomena observable on trees and buildings. In the American forests, the bark on the north side of a tree uniformly thickens, and the northern side of a brick building is said to be much more difficult to pull down than that of any other aspect. In our own country, buildings of certain species of stone ooze forth moisture, or effloresce in those points where they are exposed to particular currents of wind. In all times, certain winds have been observed to produce deleterious effects on wounds and ulcers; these effects have proceeded from the south winds in some countries, from the east in others; at Gibraltar, such was the deleterious effect of the latter wind upon the wounded after the battle of Algiers, that the Leander left that station without waiting for her supplies,—a privation which was amply compensated, by the improved state of the invalids, so soon as they were removed.† In our own country, certain seasons are more productive of buboes than others, and under certain states of the atmosphere, not yet clearly understood, both these and all other venereal sores take on simultaneously a malignant character. The effects which the climate produces, or is supposed to produce, in the alleviation of certain diseases, as phthisis, syphilis, hooping-cough, &c. should be distinctly and fully described, while, at the same time, those complaints in which it proves manifestly injurious, or where it retards convalescence, should likewise be mentioned. These points will also come to be more fully considered under the head of Diseases.

The Soil.—It will be of great importance to describe the general nature of the soil, and its elevation above the adjacent seas or other waters, and to particularize those properties by which it may favour the retention or the transmission of water, either at the surface or at a distance from it. With this in view, it will be necessary to state the proportions of pasture, arable and wood land, and whether the soil is alluvial, rocky, gravelly, clayey, sandy, &c. while the stratification or intermixture of all these materials, as far as they have been ascertained, should be mentioned. The periods of the year at which noxious ex-

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* Rush's Works, Philadelphia, 2d Edition. Vol. IV. p. 174.
† Quarrier, in Med. Chir. Trans. Vol. VIII. p. 7.

halations arise from the soil in greatest abundance, will become an important subject of inquiry; at the same time, it will be necessary to investigate the extent to which evaporation may have proceeded when these exhalations become most deleterious. That they most abound when the waters are nearly or quite expended, has been observed by able physicians, and they have also endeavoured to account for it, by supposing, that the sun's rays then penetrating the miry soil, exalt vapour which had been long pent up, and may be supposed to have contracted vicious qualities, or become concentrated from having remained undisturbed by the wind. Whatever may be the cause, it is certain, that, in many countries, the malaria does not arise until all the surface water has totally disappeared, and leaves the whole face of the country, including the very courses of the winter streams, an arid desert.*

The Vegetable, Animal, and Mineral Products of a country have a powerful influence over the health of the inhabitants, and should be examined under the various points of view in which they may contribute to their food, their clothing, their warmth, and their domestic comforts; or as they may promote or retard these in a secondary way, by influencing population and manufactures, favouring the influx of new inhabitants, introducing new modes of living, or becoming subservient to the operations of commerce. In countries which abound in certain vegetable products, the effects of moisture and putrefaction are often found seriously to affect the health; of this the culture of rice and various other plants are striking examples. The rearing of certain animals, as the silk worm of Lombardy, and the Merino flocks of Spain, considerably affect the face of the country, and give a new character to the natives. The periodical visits of certain birds, fishes, and even insects, prove most seasonable articles of supply in some instances, or are destructive to comfort and life in others. The presence of extensive mines is marked with peculiar features by the hand of nature. Among the more prominent instances of this may be mentioned the gold and silver districts of Peru, the quicksilver mines of Almaden, and those of lead and tin in our own country, where external poverty and desolation reign; while the presence of coal, wherever it is wrought, is the sure forerunner of a crowded and manufacturing population. The early appearance of many plants, and the slowness or rapidity of their

* See Chalmers's Diseases of South Carolina, Vol. I. p. 6. Fergusson, Med. Chir. Trans. Vol. VIII. p. 132.

vegetation, the torpidity, arrival and departure of many quadrupeds, birds, and insects, will often mark more strongly than the indications of the glass, the nature of a climate; and the judicious naturalist will avail himself of the circumstances in his topographical description. Strong indications of the healthfulness of a country may be drawn from its plants and animals, and the approach of unhealthy seasons has often been marked by the changes produced on them. In America the common house fly has disappeared, while musquitoes have been multiplied, and several new insects have been observed previous to some of their malignant epidemics; and, at similar periods, certain trees have emitted unusual smells, the leaves of others have fallen prematurely, and the fruits have been of inferior size and quality; while, in some places, an unusual growth of vegetable productions (fungi) has preceded the most destructive scourges of mankind.

To give a complete medical topography, all the products of the district, whether poisonous, edible, medicinal, or employed in the arts, should at least be enumerated, and should be particularly investigated as far as they may immediately affect the health of man. Among the various products, those which are applicable to medical purposes should be specially described, and this, whether they enter the established pharmacopœia, or are employed as succedanea by the regular practitioners, or as specifics by the inhabitants or by empirics. The most approved modes of preserving and preparing them should be fully detailed, together with their doses and sensible effects. In this enumeration, the mineral waters will claim peculiar attention; the complete analysis of these should be given, or at least such experiments should be made upon them as may serve to point out the most prominent articles with which they are impregnated, at the same time should be mentioned the articles with which they are adulterated, improved, or imitated at the spring, or at more distant places. The temperature of thermal waters will of course be mentioned, together with the effect which their external application produces, or is supposed to produce, upon those who have recourse to their aid. Saline springs not used for medicinal purposes, or mines of rock salt, alum, &c. whether wrought or unwrought, will be well deserving of notice.

The State of Agriculture.—This has a manifest and powerful influence on the health of the inhabitants of a country, and should therefore be fully considered, and not only are the immediate effects of cultivation of importance to be known, but it will be also necessary to inquire into the effects of such afterprocesses as are ascertained or suspected to be unhealthful,

especially where the putrefaction of the substances treated is a necessary part of them, as the preparation of flax, &c.

The State of the Roads and Communications.—The facilities of communication are of such essential importance to the comfort and health of the inhabitants of a country as to deserve being distinctly noticed.

A map of the places described will greatly enhance the value of a topographical description; nothing more will be necessary except a simple outline of the boundaries, of the direction of the mountains and rivers, and of the situation and extent of the forests, lakes, morasses, bogs, &c. A sketch of the stratification of the soil would also be a valuable addition to the view of its surface.

II.—*The Population.*—The aggregation of large masses of human beings produces effects so important upon their health as to become a special object of inquiry to the topographer; he should, therefore, endeavour to obtain the most correct statements within his power. If, in a country parish or district, he should compare the numbers of inhabitants with the space over which they are spread; and if in a town or city, he should ascertain the bounds within which they are pent up, and how far the evils of confinement are aggravated or relieved by various external circumstances, of which the following are the most important.

The Dwellings.—In describing the dwellings the medical topographer should notice the exposure, the soil on which they are founded, their elevation above it, the materials of which they are built, the mode in which they are finished, especially as concerns their dryness, their warmth, and their ventilation, and the facilities afforded to the inhabitants for preventing or removing accumulations of filth. Under this view will come to be examined the nature and extent of the cess-pools and sewers proceeding from the houses to the common receptacles of filth, and, above all, the conveniences for the reception of human ordure. It is a fact well worthy of attention, that the inhabitants of those buildings which are run up in a slight manner at the back of a row, and exposed to the effluvia of privies, have been found most susceptible of the contagion of typhus fever.* The average number of inhabitants in each dwelling, the cubical contents of their rooms, and the number and direction of the means of ventilation, should be ascertained with a view to show how far they may enjoy the advantages of a free

* Ferriar, Medical Histories and Reflections.

circulation of pure air. Much sophistry and much special pleading have been employed to invalidate the opinions of those who hold that the effluvia arising from the human body in close and crowded situations are productive of contagious diseases; but the facts collected upon this point appear to be incontrovertible.

The mode in which the streets are laid out, their width or compactness, their pavement, their drainage,* their exposure to the sun and to the wind, are considerations of much importance. The difference of a few paces may make a very considerable difference in the health of the inhabitants; thus at Rome some streets, nay certain points, sides, and even houses, of some streets are more damp, chilly, and exposed to the malaria, than others. † In many of our own towns certain streets or districts have been always remarkable for fever, and they have been as remarkably exempted from its attacks when the air has been allowed freely to percolate them by the removal of old walls or compact masses of houses, which prevented ventilation and the access of the solar influence. In our own city nothing but the violent gusts of wind, which occasionally perflate our densely built wynds and closes, could check the generation and progress of disease.

The Bedding, Clothing, and Furniture.—With the superfluities of the rich the medical topographer has little to do; but on the necessary supplies of these articles in possession of the poorer and more numerous part of the population, much of their comfort and health depends. A sufficiency of bedding and clothing to obviate cold and moisture is indispensable to health; and, during the prevalence of contagious diseases of the typhoid class, is of the utmost importance as a preventive. A very striking illustration of this will be found in the medical report of Dr Ainslie, Mr Smith, and Dr Christie, on the epidemic fever which lately ravaged an extensive district in India. Wherever the inhabitants were elevated above the surface by settles or bed-frames, and defended by rugs, there the disease was decidedly less frequent and less fatal in its consequences.

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* Compact gutters, by preventing the sinking of the water into the earth, are reckoned by Dr Rush one cause of the unhealthiness of Philadelphia.

† See Clarke's Medical Notes. The wards of the Santo Spirito Hospital to the south and south-east are more insalubrious than others, and the lower apartments of some hospitals are affected with the malaria, while those immediately above escape its influence. A very slight obstacle, as a gauze curtain, is said to prevent the entrance of the malaria at Padua. In the West Indies, soldiers residing in the lower part of the barracks were found to be more liable to yellow fever than those in the upper, in the proportion of 2 to 1. See *Fergusson* in Med. Chir. Trans. Vol. VIII. p. 587.

Every article of furniture which can aid in the promotion of cleanliness, in the preservation and cooking of food, and in other purposes subservient to domestic economy and personal comfort, must essentially contribute to the preservation of health. The materials of the beds and furniture, the frequency of their renewal, and the modes adopted to preserve and purify them, are all worthy of attention.

The Fuel.—The nature of the fuel, and the facility of procuring it, is of the utmost consequence to all ranks of society, but especially to the poorer. It is scarcely possible to conceive how thousands of the pauper inhabitants of Ireland could protract their existence, did not the bogs amid which they pine, furnish them with the means of cooking their food, and obviating the effects of the chilling damps with which they are surrounded.

The Diet.—The quantity, the quality, and the regularity of our meals have such an obvious influence upon health, that the medical topographer should be minute in his inquiries upon these subjects. He should enumerate the species and the price of the different articles, the modes in which they are prepared or preserved, the adulterations which they undergo, and the condiments which are employed along with them. The nature of the beverages used should be investigated, and their effects when taken in moderation, or pushed to excess, should be described. The nature of the water used as an article of diet, or employed for culinary purposes, should be ascertained; and those impregnations which act directly on the kidneys, the bowels, or the skin, should be investigated, while the secondary effects which their hardness or softness may produce by their adaptation to the purposes of cookery and cleanliness should be pointed out. The abundance or scarcity of this vital article should be particularly specified. The sources from whence it flows, the materials through which it is conveyed, and in which it is preserved, the accidental pollutions which may fall into it in its course, and the facility with which it disembogues itself after having served the various purposes of life, will be important subjects of consideration. The effects of the water on strangers should be mentioned; in a great number of situations no new comers can taste the water with impunity, and the same effects are produced on their cattle. The ordinary mode in which nature appears to remove these noxious effects is by the bowels; but it will be an interesting object of inquiry to ascertain what other outlets she may employ for that purpose. The use of snow water for drink in Alpine regions has long been supposed to give rise to goitrous tumours. This mode of ex-

plaining these unseemly appearances has been questioned by some upon the principle that the disease is frequent in Sumatra, where snow or ice are never seen, and unknown in Chili and Thibet, though the rivers of these countries are chiefly supplied from melted snow; but a sufficient proof that goitre proceeds in some cases from snow or ice water is, that navigators, who were not exposed to any other of the circumstances which affect the inhabitants of the Alpine regions, yet, after having been forced to drink ice or snow water, have become affected with the disease. (See Cook's Voyages.) It will be a most interesting and legitimate object of inquiry to ascertain how far cutaneous affections depend upon the peculiar sources from which the water in ordinary use has been procured. The good or bad effects produced, or supposed to be produced, in some districts by certain articles of food long continued, should be inquired into; the use of oil is stated in some countries to predispose to hernia; beer and cyder are supposed to be productive of calculous disorders, while salted meat is, on no slight grounds, presumed to prevent them. * In some countries the most innocent articles of food are deemed injurious, and in Greece, eggs, butter, and milk, have been stigmatized as three poisons. †

The Employments.—The nature of the employment or trades of the inhabitants, the periods occupied in them, whether in close, crowded, and damp apartments, or in the open air; the metallic or other vapours, or the currents of air or water to which the workmen are exposed, and other similar circumstances, should all be most minutely particularized. To these particulars should be added the nature of the diseases produced among the artificers, the means they adopt to prevent their occurrence, and the remedies peculiarly useful in their removal.

The Amusements and Customs.—As these mark the general habits, and often in particular instances lead to disease, they are well worthy of enumeration. The topographer should notice whether they are active or sedentary, whether exercised within doors or in the open air, whether they tend to the excitement of the

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* In tropical climates, calculus is scarcely known. On the Continent, and in Britain generally, it occurs in the public hospitals in about 1 case in 300 or 400 patients. In the cyder counties of England it is much more frequent than in many others, but in the Norfolk district, it is as frequent as 1 in 38, a proportion exceeding any thing which has been noticed in any other district of Europe. In the British army, calculous complaints are exceedingly rare, but we do not know whether any comparative estimate has been made of their frequency; in the navy, however, they are so strikingly low as 1 in 17,200. See Hutchison in Medico-Chirurgical Transactions, Vol. IX. p. 459.

† See Clarke's Travels, 8vo. Vol. III. p. 255.

depressing passions or not. Even the most trivial local amusements may produce the most powerful effects on the passions and the health; a fact which will not be denied by those who recollect the effects of music in exciting the Scotch Highlander, or in producing nostalgia, and even death, in the Swiss mountaineer.

The Morals—the Education—and Mode of Rearing Children.—The influence of religious instruction on the modes of living of individuals cannot escape the most unconcerned observer, and hence the general state of the morals of the district which he describes, should be an object of the medical topographer's investigation. In pursuing this he should not lose sight of the number of inhabitants which the exhortations and the example of fanatics have so constantly consigned to the mad-house and the foundling-hospital; while he will perhaps find that equal numbers have been reclaimed from the gin-shop,—another fruitful source of supply to one at least, if not to both, of these establishments. Under this head the effects of early marriages upon health seem most naturally to range themselves.

The Police of a city or district has a considerable influence upon the health of its inhabitants at all times, but in periods of public calamity from contagious disease it becomes absolutely essential to it. The subject of medical police in general is one of such extent, and comprising such a multiplicity of objects of inquiry, as to form a distinct science of itself. We shall therefore content ourselves with enumerating a few only of the principal points which appear to us to bear more directly on the subject of medical topography, and which should be minutely inquired into by all who cultivate that study. The first of these is the establishment of common sewers, without which no town can ever be either a pleasant or a healthful residence; the erection of necessaries; the pavement, cleaning, and lighting of the streets; the regulation of the slaughter-houses and markets; the removing to convenient distances burial-grounds and all manufactories productive of noxious exhalations;* the establishing a control over the admission and lodging of vagrants; the regulating the purchase and exposure of old clothes and furniture;

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* The consequences of burying in churches are now well known, perhaps the best mode ever adopted is that in use at the branch of the Hospital of Incurables of Naples, near Torre del Greco. The burial ground is divided into 365 large and deep vaults, one of which is opened every day of the year, and, after the bodies are deposited, is accurately shut. The process of putrefaction is completely finished before it is again opened. See Eustace's Italy, Vol. II. 8vo. p. 346.

the controlling the venders of spirituous liquors; the diminution, as much as possible, of the number of prostitutes, and the holding out to them, and the lower orders of society in general, encouragement to have recourse to hospitals on the first appearance of disease among them.

The State of the Poor.—Under this head should be enumerated their employments, the rate of wages, the price and nature of the food which they are able to procure for themselves, or which is supplied them, either as an equivalent for their labour or in the form of charitable donations; the rent of their cottages or rooms, the public institutions for their instruction and their support, and the friendly or other associations for their relief, &c. &c.

III.—As the ultimate aim of medical topography is to ascertain every circumstance that has an influence upon health, the nature, extent, and varieties of the diseases of the district which he undertakes to describe, are subjects of primary importance to the topographer. Under the present, as well as the other heads of inquiry, much must be left to the judgment, and much must depend upon the opportunities for observation, but the following objects appear to us indispensably necessary to be investigated.

The Endemic Diseases.—In the details on this head, the following points of inquiry should be particularly attended to. The age, sex, and constitution of those most commonly attacked; the nature of the diet, employments, or situation which renders them most liable to be affected; the popular opinions on the disease; the domestic prophylactics; the mode of cure followed by the regular practitioners in private life, and the result of hospital treatment deduced from the tables of admissions, discharges, and deaths.

The Epidemic and Sporadic Diseases.—The same subjects of inquiry should be attended to in these as in the preceding class, and the utmost caution should be observed in examining into the proofs of the contagious or non-contagious nature of the diseases of whatever species.

Hereditary or Family Diseases claim the attention of the topographer, and not only should their existence be ascertained, but any modes which may have been adopted to prevent or to cure them should be fully detailed.

The existence or frequency of *Feigned Diseases* should not be overlooked, and the details on this point should be ample, embracing the history of individuals, the particular diseases and symptoms which they have imitated, the real diseases which

they have brought on, and the modes adopted for their discovery. The history of the fasting woman of Tutbury, and the steps which led to her detection, will long be remembered in the medical annals of this country. The diseases of the manufactories, the prisons, the poor-houses, and the boarding-schools, should not be forgotten, nor should those from *imitation*, which so often arise in the latter establishments, be overlooked. These diseases of imitation also often prevail in other situations, for instance the convulsive disease in Wales, Shetland, and elsewhere, and the disease known by the name of the "Louping Ague," in Angus-shire. *

Tables of Marriages, Births, Diseases and Mortality, if drawn from extensive and authentic collections of reports, become peculiarly valuable, and the greater number of points of comparison with preceding years which they furnish, the more is their value enhanced.

Epizootics.—The diseases of cattle and other animals should be inquired into, particularly when they have been very extensive and fatal. The most severe epidemics, the plague, for instance, which have afflicted man, have been preceded by similar affections of the lower orders of animated beings. The influenza, which raged in this country, and extended almost over the world in the latter end of the eighteenth century, was preceded in some places by a mortality among cats, and in others, birds were found to be peculiarly affected. The diseases of the cattle, which serve for agricultural purposes, or directly for the food of man, should be an object of particular inquiry. The health of this class of animals is peculiarly linked with that of the human species who tend and feed them, and who, in return, owe to them so much of their comfort and their support. In the epidemic which lately ravaged some of the Indian provinces, upwards of 44,000 head of cattle died in one district in the course of seven months, partly from want of food, and partly from disease. It is asserted that dysentery is produced among sheep closely pent up, and that the disease thus generated becomes contagious among these invaluable animals. The nature of the rot, to which they are subjected, is an inquiry of much importance, the more so, that in its early stages it is found that they take on fat, and are therefore in that morbid state often applied to the purposes of food. There can be no doubt that the flesh of animals who have died of disease, or who are killed when overheated by excessive labour, is highly injurious to health; and even the flesh of those who have died

* See a full account of these in our 3d Vol. p. 434.

a natural death has occasioned sickness, and has in some instances proved fatal. *

The Diseases of Plants employed as articles of food should be inquired into, as they are by them deprived of a considerable portion of their nutritive qualities, and even rendered deleterious: thus to the ergot or blight in rye, a most extensive and fatal endemial gangrene has been traced in France, and there is reason to suppose that a similar disease has been produced from blighted wheat in England.

Popular Medicine.—Under the head Endemic Diseases, we touched upon a branch of this subject, but it is worthy of being still farther enlarged upon. In many districts periodical bathings, bleedings, purgings, vomitings, diet drinks, &c. are resorted to, under the supposition that sickness in *general* is prevented by such practices, while there are other practices adopted for the prevention and cure of *particular* complaints. Rum and milk, egg and brandy, and similar disguised drams, are in high estimation in incipient cases of phthisis in some districts, and contribute to swell the number of annual victims to that scourge of our islands. The popular remedies used for the diseases of cattle and other animals should also be noticed.

Hospitals.—An account of the establishments of this description, whether for the reception of particular diseases, as fever, mania, syphilis, &c. for lying-in women, foundlings, blind, deaf and dumb, or for more general purposes, should be a very principal object of the medical topographer's inquiries. He should inform us of the site, size, and plan of the hospital, the number and accommodation of the wards, with the methods of ventilating, warming, and cleansing them; the plans for separating and classifying the patients, their numbers, and the measures pursued for obviating or checking contagious diseases among them; the materials and arrangement of their beds, bedding, and other articles of furniture; the means of collecting and conveying the sick to the hospital, with a statement of the obstacles or facilities of access to the building itself, as well as to its various apartments. We should have an account of the plan, extent, and arrangement of the kitchens, baths, and washhouses, and of their supply of cold and hot water, and steam, together with a detail of all contrivances for the abridgment of labour; the diminution of the consumption of fuel; and the increase of the nutritive quality of the food, or its fair,

* The diseases produced by the use of various animals, while out of season, as it is called, should be considered under the article "Diet."

regular, and comfortable distribution. Knowing, as we do, how much the individual comforts of the sick, and the general good order of an hospital, depend on the water-closets or "latrines," we should attach great importance to the description of their site, size, and actual state, the extent of their supply of water, air, and light, and the measures adopted for removing the soil, or preventing the diffusion of unpleasant and unhealthy effluvia. To all this information on the immediate accommodations for the sick, we should wish to be added an account of the storehouses and offices of every description; the airing ground for the convalescents; the places of reception for the dead, with the modes of disposing of the bodies, &c. &c. We should have also a statement of the rank, number, salaries, and duties of the various officers of the establishment, whether medical, surgical, or purveying, with an enumeration of the servants of different classes, their wages, the proportion which they bear to the sick, and the respective duties which they perform. In short, we should wish for information on every point subservient or preparatory to the grand objects of administering food, medicine, and surgical assistance. We should then be prepared for a view of the mode of carrying on the medical, surgical, pharmaceutical, and purveying duties, which would naturally lead us to the history of new or peculiar practices or operations; accounts of new remedies; details of the diet, ordinary and extraordinary, administration of wine, and other cordials, &c. The sources of revenue from which these wants are supplied should be specially enumerated, and, from all these premises, we should have no difficulty in entering into a view of the expences of the establishment. The nature of the records and annals kept at the hospital should be stated to us, and, from these, interesting information on comparative mortality, prevalence of disease, and peculiar epidemics, originating either from within or without, might be afforded; as well as satisfactory notices on every other point, medical, statistical, or financial. * The same principles of examination should be applied to prisons, lazarettos, workhouses, &c.

If there are any veterinary hospital establishments, they should be described; and any peculiar practices or operations by the regular profession or quacks should be mentioned.

Spontaneous Cures.—Diseases in general have not a natural tendency to terminate in death, and some, if not interfered

* We have already given this outline of inquiry into the state of hospitals in our review of Dr Carter's work, Vol. XVI. p. 76, but we think it more convenient and more adapted to the purposes of the present paper to reprint than to refer to it.

with, proceed spontaneously to a favourable termination. The medical topographer should investigate these cases, and should endeavour to discover how far external circumstances, which do not come under the head of medical means, may have aided the efforts of nature. This inquiry will also lead him to the investigation of the effects of the climate and situation which he describes, on diseases imported into it. The disease for which change of climate has hitherto been principally recommended in this country has been Phthisis; but there can be little, if any doubt, that many lives have been sacrificed in this way. Physicians, judging from latitude, have supposed that many situations *should* be favourable to phthisical patients, which, on trial, have proved remarkably the reverse. Many parts of the south of Europe come under this character, from the nature of their climate alone, and many others which are more fortunate in this respect, are eminently defective in all the domestic and medical comforts which are of the last importance to the recovery of the invalid. The effects of climate in accelerating the cure of syphilis, of cutaneous affections, of diseases produced from the excessive employment of mercury, and of other chronic affections, should also be an object of inquiry.

The State of the Practice of Physic and Surgery, as well as that of *Empiricism*, should be noticed; the privileges or the control exerted over the members of the profession, with their divisions, numbers, &c. should be stated; as also their various institutions, libraries, societies, &c.; their peculiar doctrines and practices should be noted generally, and any thing of special interest should be particularized; the progress of *Vaccination* should be minutely inquired into. Upon the circumstances above stated, either singly or combined, will greatly depend the last and most important object of the investigations of the medical topographer, with which we shall close this class of our suggestions.

Longevity.—Not only the remarkable instances of longevity should be given, but a general view of the mortality among all ages and sexes, extended to as long a period of years as the inquirer can refer to, marking those which have been particularly affected by epidemic or contagious visitations. If the inquiries of the topographer extend over a large surface of country which comprises several districts, tables of mortality for each district should be given, otherwise a very incorrect idea may be impressed on the mind of the reader; thus, from Dr Price's calculations, there is great reason to suppose that in hilly districts, half the numbers born, live to the age of forty-seven, and that one in twenty reach so far as eighty years of age; while, in marshy

districts, one only in fifty-two attain that period of life, and only one half the numbers born, survive to the age of twenty-five. There is also, as is well known, a considerable variation between the ages of persons who reside in towns and in country parishes, insomuch, that, in some instances, the difference is more than double, some cities being calculated to give a mortality of one in nineteen, and some healthy country villages being reported so low as one in forty, fifty, or even sixty, although it must be confessed that there is great reason to suppose that these estimates have been overrated, from inattention to concomitant circumstances. It is certain, however, that those employed in the Insurance of Lives estimate the longevity of a country village at fifteen, while that of the metropolis is only rated at ten and a half. *

IV.—Under the fourth head should be classed those miscellaneous topics of inquiry which more remotely bear upon the medical topography of a town, district, or country, and which could not be so conveniently arranged under any of the other heads. Peculiar circumstances will of course contribute to the enlargement of these, but the following appear the most important.

A catalogue of the works already written on the subject of the places described, whether referring to their topography, natural history, or diseases.—Notices on the subjects of the colleges, or schools for medical education, of their museums, and libraries, and of the rare and curious articles contained in them, whether preparations, books, or manuscripts.—Notices on singularities in the formation of the brute, and more especially of the human species, as dwarfs, giants, cretins, &c., and on such persons as have been remarkable for their physical powers and propensities, as strength, voracity, &c. &c.—Notices of eminent medical authors and practitioners who have flourished or live in the places described.—Notices on important and curious objects of botany, mineralogy, natural history, &c. As the excellent directions of Professor Jameson, addressed to the contributors to our College Museum, may not be in the possession of many of our readers, and as they will enable any common observer to preserve various important contributions towards the natural history of the place where he resides, or which he may accidentally visit, we shall conclude this paper with an abridged statement of them.

" *Quadrupeds and Birds.*—Quadrupeds and Birds to be preserved by

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* Hints for an Insurance Company for Kent and Sussex, 1804, p. 7.

taking off their skins, which may be easily done, by making an incision in a straight line, from the vent to the throat, and removing the skin by means of a blunt knife. The skull and bones of the legs and feet are to be left. The brain, eyes, and tongue, ought also to be extracted. The skin, in order that it may be preserved from decay, should be also rubbed on the inside with some one of the following compositions: 1*st*, Tanners' bark well dried and pounded, one part; burnt alum, one part; and in a hot climate one part of sulphur; to be well mixed together.—2*d*, Tanners' bark well dried and pounded, one part; tobacco, perfectly dried, one part; burnt alum, one part: add to every ounce of these ingredients one ounce of camphor, and half an ounce of sulphur. (*N. B.* No sublimate or arsenic ought to be put on the skins, as both substances destroy their texture.) These compositions to be kept for use in well corked bottles or jars.

"Skins, when thus prepared, and partly dried, must be packed carefully in boxes, the lids of which ought to be pasted up, and in the paste used in fixing the paper, a little corrosive sublimate must be put, which prevents insects from eating through the paper.

"*Reptiles and Fishes.*—Reptiles and Fishes are best preserved in spirit of wine, rum, or whisky, some of which must be injected into the stomach, through the mouth, and into the other intestines through the anus. Before putting them into bottles, jars, or barrels, they ought to be washed clean of slimy matter. If long kept in spirits before they are sent, the spirits should be changed two or three times. The jars or bottles ought to be closed by means of sheet-lead and bladders. The larger reptiles, as crocodiles, and the larger fishes, may be preserved in the same manner as quadrupeds and birds.

"*Animal Concretions.*—Concretions of various kinds are occasionally found in the brain, lungs, heart, liver, kidneys, gall-bladder, intestines, and urinary bladder. The stomachs of many animals afford concretions of different kinds, particularly those known under the name of *bezoar stones*; and travellers inform us, that stones are met with in the eggs of the ostrich. All of these bodies are interesting and valuable to the natural historian.

"*Skeletons.*—Collectors ought not to neglect to preserve the skeletons of the different species of animals. Of man, the skull is the most interesting part, as it varies in the different races of the human species, and is also frequently singularly altered by the practices of savage tribes. The best way of cleaning bones is to expose them to the air, and allow the insects to eat off the flesh. This being done, they ought to be washed with sea-water, and afterwards freely exposed to the sun. The best skulls are obtained by putting the whole head in rum or whisky, or a strong solution of alum; and both male and female head ought if possible to be preserved.

"*Molluscous Animals,—Vermes and Zoophytes.*—Molluscous animals, such as cuttle-fish, the inhabitants of shells, &c. vermes or worms, and zoophytes, or animals of the coral and other allied kinds, ought all to be preserved in spirits; and in the two former classes, viz. the mollusca and vermes, the spirit of wine should be injected

into the intestines, by means of a syringe, to prevent the putrefaction of the internal parts, and the consequent destruction of the organs of digestion, respiration, and of the nervous system. Many zoophytes or corals, or rather their houses, may be preserved dry; but fragments of every species ought to be put into spirits, that the real structure of the animal may be discovered.

"*Shells.*—Shells, or the coverings of molluscous animals, are anxiously sought after by the naturalist, not only on account of their great beauty, but also from their intimate connection with the various fossil species met with in rocks of different kinds. The best live shells are collected by means of a trawling-net, such as is used by fishermen, if the depths are not too great; they are also brought up by the cable in weighing anchor, the log-line, and in sounding.

"After a storm, good shells may be picked up on sea beaches or shores, as the violent agitation of the ocean in a tempest separates them from their native beds, and often casts them on the shore. Shells that have been much tossed about by the waves are of less value than fresh ones; but these, when other specimens are not to be got, ought to be carefully collected. Many interesting shells are found in rivers and lakes; and numerous species occur on the surface of the land.

"Fresh shells, or those in which the animal is still alive, ought to be thrown into hot water, the temperature of which may be gradually brought to the boiling point, by the repeated additions of hotter portions, by which means the animal will be killed. The shells are allowed to cool for two or three minutes, and then the animal is picked out.

"*Insects.*—Beetles of every kind are speedily deprived of life by putting into boiling water, which does not injure those having black, brown, or any dark colour; but those which are covered with fine down, or have brilliant colours and lustre, should not be exposed to moisture, but are easily killed, if put into a phial, and placed in a vessel of boiling water for some time. When the insects are quite motionless, such as have been in the water should be exposed to the air and sun for a day or two, until perfectly dry. In this state, they are to be placed in boxes with cotton-wool, along with camphor. Beetles may also be preserved in spirit of wine.

"Butterflies, moths, and many other tribes of insects, with delicate and tender wings, may be easily killed, by pressing the thorax or breast betwixt the finger and thumb; and it is preferable to have the wings closed, because they thus occupy less space, their colour and lustre are better preserved, and they can be expanded afterwards by the steam of hot water. Care should be taken that the antennæ or feelers and legs are not injured. A pin should be stuck through them, by means of which they are fastened to the bottom of a box lined with cork, or to one of deal, or other soft wood. Camphor ought to be put into the box.

"The arachnides or spiders are best preserved in spirits.

"In collecting insects, we use either the forceps or a net. The

forceps are about ten or twelve inches in length, provided with fans of a circular or other form, and are covered with fine gauze. They are held and moved as a pair of scissars. The net is very easily made. It is of gauze, or any very fine open muslin, made upon a piece of cane of four feet long, split down the middle about the half of the length: the split part is tied together, so as to form a hoop, upon which the gauze is sewed in the form of a bag; the lower part serves as a handle, and with this, all flying insects may be very easily caught. When the insect is once within the rim of the net, by turning it on either side, its escape is completely prevented by the pressure of the gauze or muslin against the edge of the hoop.

"*Crabs.*—Crabs, lobsters, &c. may be suffocated in spirits of wine or turpentine, and then dried in an oven.

"*Crustaceous Animals.*—Sea stars, after washing in fresh water, may be extended on boards by means of pins, and when dry, laid between folds of paper, and packed in a box with a little camphor.

"In Echini or Sea Eggs, the soft internal parts are to be extracted by the anus: they are then to be stuffed with cotton, and carefully packed with tow or cotton. Particular attention should be paid to the preserving of the spines.

"*Seeds.*—In collecting seeds, it is desirable that they should be well ripened, and dried in the sun. Large quantities should never be put together, but only a few, and these well selected. They retain their vegetative powers much better if tied up in linen or cotton cloth, than in other substances; and if then packed up in small boxes, and placed in an airy part of the ship, there is every probability of their arriving in a sound state. The same remark applies to bulbous roots. Bulbs should never be put in the same box with seeds. The boxes with seeds, and with bulbs, ought never to be put into the ship's hold.

"*Dried Plants.*—The greater part of plants dry easily between leaves of books, or other paper. If there be plenty of paper, they often dry best without shifting; but if the specimens are crowded, they must be taken out frequently, and the paper dried before they are replaced. Those plants which are very tenacious of life ought to be killed by the application of a hot iron, such as is used for linen, after which they are easily dried. The collections to be carefully packed in boxes with camphor, and closed in the same manner as directed for quadrupeds and birds.

"*Minerals.*—1. Every mineral, from the most common clay or sand to the gem, ought to be collected.

"2. Specimens of rocks, such as the granite, porphyry, limestone, &c. should, if possible, be broken from fixed rocks, and not from loose masses, which are generally decayed. In selecting the specimens, one set ought to represent the different varieties of appearance presented by the rock in the fresh state, another the rock in its different states of decomposition.

"3. When the specimens of simple minerals, or rocks, contain crystals, they ought to be wrapped in gauze-paper, then in cotton, *and afterwards in* several folds of strong wrapping-paper.

" 4. The specimens of rocks ought, if possible, never to be less than four inches square, and one inch in thickness, and of a square form. As soon as they have been prepared, they should be labelled, and wrapped in several folds of strong wrapping-paper. When paper cannot be procured, moss, or other soft vegetable substance, may be substituted for it.

" 5. The sands of deserts, steppes, and rivers, ought to be carefully collected. The sands of rivers often contain precious stones and metals, and hence become very interesting objects to the naturalist. The sands of deserts and steppes throw much light on the nature of the surrounding country, and are much prized by the geologist.

" 6. Numerous mineralized animal and vegetable remains occur imbedded in strata of different kinds; all these ought to be very carefully collected and preserved. Abundance of shells, in a fossil or petrified state, are met with in limestone; of vegetables in slate-clay, sandstone, &c.; and numerous bones, and even whole skeletons of quadrupeds, birds, amphibious animals, fishes, and even of insects, occur in rocks of various descriptions.

" 7. The mineralogist ought to provide himself with hammers of various sizes. One for common use of two pounds weight; others, three, four, and six pounds weight. He ought also to provide himself with chisels of various sizes and forms, and with a set of small boring-irons. A miner's compass, small magnifying-glass, goniometer, and blowpipe, ought also to form part of his equipment. The two first are indispensably necessary for the travelling mineralogist. Nor should he neglect to provide himself with a strong bag; the form, that of a fowling-bag, lined with strong leather, covered with wax-cloth, and the outside of some durable cloth."

Our original intention in preparing this paper was, to confine ourselves to subjects connected with our own islands, but, in filling up the first outline, we found so many important queries and illustrations presenting themselves from among the phenomena observable in foreign countries, that we were unconsciously led to extend our heads of inquiry so as to make them applicable to these also. In truth, the same causes of disease exist in all countries more or less, while their effects are proportionally elicited by circumstances peculiar to each. That physician who has studied the influences of external circumstances on the human constitution in one situation, cannot, therefore, be long or greatly at a loss to detect them in another, and thus observations made under the burning sun of the Indies may materially assist the investigation of the origin of disease in the less fervid temperature of northern climes. The invitation which we have already held out to the practitioners of the British Islands, we now extend to those of our more distant colonies, and we shall feel happy to afford insertion either to their answers or their inquiries in the future numbers of this Journal.

H.

II.

On the Distinction between Soul and Mind. By George Nesse Hill, Esq. Surgeon, Chester. In Reply to the Review of Mr Lawrence's *Lectures on Physiology*, inserted in this Journal, Vol. XV. p. 599.

Arrogance and presumption, I hope, form no part of my character. If such be your opinion, you will feel no objection to insert some observations upon the doctrine (if so it may be called) of Materialism, as stated by Mr Lawrence, and very ably examined in your number for October. As friends to liberal discussion, and, what is still of higher import, as the advocates of truth, I feel assured that your candour will admit occasional remarks, although they may not exactly accord with your own.

I have no intention of attempting to defend doctrines in which I have no belief; nor if I did coincide with Mr Lawrence, does that highly gifted anatomist stand in need of such a defender. I gratefully acknowledge the obligation I owe both to you and the learned lecturer, for having canvassed a subject in which every human being is interested. Every person whose attempts to serve his fellow men have been misconstrued, will feel it incumbent upon him to avail himself of every feasible opportunity of explanation, by illustrating his meaning, where obscurity appears to have misled his readers.

Arduous as the attempt appears to break a lance with the veteran editors of a long established and highly valuable Journal, yet I venture, confident of their forgiveness, when they view the motive with that liberality they bestow on every subject.

Mr Lawrence is charged with having committed a great error, an error "unphilosophical in its nature, and dangerous in its tendency." (Journal, p. 599.) This error appears to me to be contained in the following statement: "The same kinds of facts, the same reasoning, the same sort of evidence altogether, which shew digestion to be a function of the alimentary canal, nutrition of the muscles, the various secretions of the respective glands, prove that sensation, impression, judgment, thought, in a word, all the manifestations called mental or *intellectual*, are the animal functions of their appropriate apparatus, the central organ of the nervous system." (Lect. p. 104.) Now I humbly conceive, that had this paragraph closed at the word "*mental*," the whole doctrine and all the subsequent reasoning would have *been incontro*vertible; but the finest understanding occasionally

lapses into error, and "o'ersteps the modesty of nature," whence arises the propensity to confound what little we seem to know, with that which, it is quite clear, we do not know. By attempting too much, truth becomes more closely veiled. Such seems to me to be the case with the sequel of all Mr Lawrence's reasoning, from being erected upon a misconceived basis.

Free promulgation of discordant opinions is the surest road to truth. In this point of view the world is as much indebted to Mr Lawrence, as it is to the editors for so luminous a communication of their sentiments, notwithstanding the former talks and writes about a nonentity, viz. an immortal "or immaterial mind," p. 107. That the materials destined to form the future mind are as regularly created, and *ultimately* evolved, as the component parts of any other moving machine, will scarcely be denied by the most strenuous advocate *(or acutely sensitive immaterialist)* for the doctrine of the homogeneity of the soul and mind, a doctrine which the more carefully it is examined by unprejudiced minds, the less will it appear consonant with the facts daily presented to observation, during the several states of the original formation, the growth, the acme, the health, the disease, the decline, and the death of the human body. The phenomena presented by these successionary states all tend to prove that the mental faculties are not the intellectual, or, in other words, that Matter is not Spirit.

To young and unsophisticated minds, undebauched by false metaphysical speculations, mystery is ever a great stumbling-block; therefore, all the data upon which sound reasoning is to be founded, should be rendered as clear and comprehensible as possible. It is, I humbly conceive, erecting a false one to advance, that the intellectual part of man and his mental faculties are one and the same. It is absurd, dangerous, and *immoral*, to advance that the soul is the effect of, or produced by, material organization, and perishes with the body. How clear and emphatic is the distinction made in the holy writ: "Thou shalt love the Lord thy God with all thy soul, with all thy heart, with all thy mind, and with all thy strength!" how simply beautiful, how correctly conformable to truth is this arrangement! The question of Mr Lawrence, "Where is the mind of the fœtus?" is by no means difficult to answer. When he calls it the intellectual soul, he *advances* from the plain path of truth into the regions of absurdity, and it is then only that his doctrines savour of materialism,—the sin never to be forgiven, because calculated to produce so much mischief especially on the minds of the rising generation.

In considering the origin, nature, and progress of the most af-

flicting of diseases, insanity, I do not recollect that I have any where been guilty of using the words deranged soul; but notwithstanding all the offence I have given to the strenuous believers in the intellectuality of the mind, nothing has yet been said, not even by the zealous writers of the Eclectic Review, to disprove that mind is not the result of corporeal organization, and that the spirit or immortal soul is not an emanation from divinity itself, consequently independent of all influence from matter, which both health and disease prove the mind is not.

I shall not however indulge myself at the expence of my readers' time, in endeavouring to support here what I have advanced in the "Essay on Insanity," but only observe, that nothing has occurred since it was published, to convince me of its incorrectness in this most momentous distinction, a distinction which, so far from loosening the bonds of morality, or producing any one of the consequences so sincerely deprecated by every pious mind, tends most decidedly to illuminate and confirm the truth of our holy religion, and to strengthen the convictions of well-ordered society. Facts crowd upon facts to prove the soundness of these assertions, and the salutary effect of acting upon this reasoning in the cure of insanity is daily illustrated.

Permit me then, gentlemen, to indulge myself in making a few remarks upon the learned criticism on the belief of the able lecturer: "Thought (says he) is a function of matter." Are we arrived at a complete knowledge of all the functions of matter? Was it not possible for Him who formed all things to give to matter functions, far beyond our powers of comprehension? Do we doubt that the sun is matter? so is a clod of earth, but what analogy can we discover between them? and what know we of the constituent particles of the grand luminary? Can matter act upon spirit? That matter can act upon mind is incontrovertibly true, or insanity would never be cured; but who will boldly attempt to prove that the immortal soul can be diseased, and can be acted upon by medicinal agents? What then becomes of the stigma of reproach, daily attached to the degradatory epithet of Materialist? Or who will have the hardihood to deny that He who formed the most wonderful and complex organ with which we are acquainted, could not endow it with the powers of thinking as the result of such organization, and confer upon it the high and important office of a medium between the perishable body and the imperishable soul? Is it not incumbent upon us (on all metaphysical subjects at least) to make due distinctions between the comprehensible and the incomprehensible? The true nature and affections of the human mind, I humbly conceive to belong to the former; the exact nature of the union be-

tween body and soul to the latter. True, as the learned critic observes, "we examine the various glands, and we find in the ducts connected with each of them a portion of that fluid which is its appropriate secretion;" but has this step advanced us another? Has it taught us, or shall we ever know the exact process by which the bile or the saliva is formed from the blood? We behold the apparatus for the secretion of these fluids, as we see the brain the apparatus of thought, as Mr Lawrence *so far justly* conceives; but do we know any more of the actual secretion of bile, &c. than we do of the formation, the growth, the improvement, the derangement, the decay, and final extinction of mind? A man was brought into the London hospital, who had just received a wound of a salivary gland. It was near dinner time. He ate a hearty meal, during which exercise, a napkin folded nine times, and applied over the wounded organ, was wetted through by saliva formed *instanter*, fully as speedily as we can conceive to be the formation of thought.

That thought is a function of matter, whether viewed "physiologically, theologically, or metaphysically, is said to be the sum and substance of materialism;" but this is not proving by even the shadow of an argument, that the intellectual principle is thought, or *e contra*, which would indeed be "rank materialism."

"Upon the principles of materialism, there can be neither morals nor moral responsibility." (Journal, p. 607.) Granted, if mind and soul were homogeneous, but who will prove their homogeneity? "In all these workings of a mighty mind there is —there must be something immortal." (Ibid. p. 611.) But does it of necessity follow that this something must be mind? Our ignorance of the most common natural operations is every hour demonstrated; who then shall arrogantly aver that he can bring to the proof the immateriality of mind? that he will shew it is the "spark divine," the imperishable intellect?

Are brutes of the higher order destitute of mind? yet who, in the present day of daring *averment* and *inductive* philosophy, will say they have immortal souls? Instinct is merely an appellation indicative of a limited portion of mind, only a few grades below that of man, as man is of a higher order of beings.

That the office of the brain has nothing whatever to do with immateriality, appears to me as clearly true as that the heart, the liver, or any other viscus, has not. To those who have made some progress in developing what is termed mental derangement, it is no less clear that the brain is the seat of thought, than that the heart is the fount of the circulation. Will the impugners of this doctrine say, that sensation is not the effect of impres-

sion,—that perception is not the result,—and the latter, the source of memory, the foundation of all the phenomena of mind, which we find is as intimately connected with the brain, as secretion is with the glands, and as inexplicable; yet no one will pretend that thought is a secretion. The materials of thinking are brought to the brain by the external senses, as certainly and as constantly as the materials for the formation of bile are brought to the liver. Are not these facts? yet can we, by any process, detect the constituents of bile in the blood, or in an healthy liver, any more than we can thought in the brain? Are we perfectly acquainted with the divisibility of matter, or will the eye ever behold the odoriferous particle which impresses the olfactory nerves? Although the cause of insanity is always corporeal, it is neither the soul nor the body which is insane, but the mind, through the medium of the body; and this is manifest by the operations of consciousness, that principle of the soul which informs us of the mental disturbance and derangement,—the mind not possessing the mysterious faculty of consciousness of its own operations.

Whilst the human mind is considered as the result of organization, the division of the zoophytes is explainable and consistent with common sense, but inexplicable and inconsistent, when the mind and the soul are considered as one and the same, as the learned editors truly aver, "whatever is divisible is matter," and well might they add, "the subject is too absurd to enlarge upon;" for truly it is so by those who voluntarily and unnecessarily deal in incomprehensible mystery, such as that of considering mind and soul, the material and the immaterial, to be one and the same. Considering the soul as an immaterial principle, united to the mental faculty during animal life, in a way indiscernible to us, and at its extinction returning to its divine origin, can never be rationally considered as "perverting physiology to the support of scepticism." (Journal.) Farther say our worthy journalists, "We are conscious of a power within us which reasons," &c. True, and whence this consciousness? assuredly from an immaterial principle, so connected with a thinking faculty, as to inform us of its powers of reasoning correctly or incorrectly, and of the effects of all the passions to which it is subjected from the unceasing operation of exciting causes, proved, as said above, by a lunatic being at intervals perfectly conscious of the perverted state of his mind; but conceding that the mind in health is actually conscious of its own operations, is it not absurd to say it is so during the existence of a maniacal paroxysm?

To say that thought possesses extension, solidity, and all the properties of gross matter, is decidedly absurd; but it is some-

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s are superadded to organized matter." (Journal.) Then,
ot the remarkable property of thought? Was the great
ator of the brain incapable of thus endowing the beautiful
? Thought then is the result of organization, but mind is
ie immortal soul, the " *breath of life.*"
e very " beast that perisheth" is endowed with the mental
y, by whatever epithet proud man may choose to designate
ut who, in our day of information, will say the beaver has
mortal soul? " When the beaver is undisturbed by man,
a perfect example of almost every virtue; he is a pattern of
gal fidelity and paternal care,—laborious, thrifty, frugal,
t, watchful," &c. " The beaver is never known to make
dations upon his weaker neighbours. In forming their habi-
s, dams of water, &c. no human ingenuity could improve
labours." (Sansum, on the habits, *morals*, manners, &c. of
ers.) Such then is *mind* without *soul.*
Thought is not a sensation;" true, but where is the thought
endent of sensation? The bell is the indirect source of
upon the application of an exciting cause, but it is not
. Have not idiots and chronic lunatics souls? but who
hey have minds? Would not a brainular concussion abo-
he mind of the beaver as it does in man? The idiot and
unatic then have imperfect, mutilated, or diseased souls,

to his *soul* through the medium of his brain, and then became a rational being again from a surgical operation? Could there be a more striking proof of the dependence of mind upon healthy organization; and is this "part of the divinity within us" equally dependant? It must be, if they are one and the same. Thought then is the effect of sensation, as much as any other thing is the effect of a combination of causes, without which, we find that thing cannot exist, but the soul must be as independent of corporeal agency as it is imperishable. What is immortal must be independent of disease or of accident, but is the mind so? Numerous quotations are given the readers of the Journal, to prove that mental faculty is compatible with an almost entire destruction of the brain; but the argument recoils on itself, as an equal, if not a far greater number of instances might be adduced to show, how instantaneously every mental faculty has been suppressed, or totally extinguished, by a rupture of an artery, not visible to the unassisted eye, by a few particles of pus, by a few grains of osseous deposition, or the sudden accumulation of a few ounces of water. Nay, from the mere concussion produced by a moderate blow, when the eye and knife even of a Home have failed to discover the slightest breach of visceral integrity in the brain, can such accidental causes reduce the *soul* to fatuity, or exalt it into agonizing pain and ultimate frenzy? Can the immortal spirit be laid prostrate at the foot of corporeal disease? be elevated into more than "giant's strength," by a febrile or maniacal paroxysm? be depressed below the emmet's power by an hæmorrhage? be wholly subdued by an apoplexy, or annihilated *pro tempore* by a brainular collapse? But it is asked, "Where does thought reside?" It is as pertinent and reasonable to ask, "Where does the immortal soul reside?" It is said we can have "no conception" of any analogy between the functions of the brain, as the seat of mind, and any other of the visceral functions. How many phenomena are daily presenting themselves to us, of which "no clear conception" can be had, and yet of which no one doubts the existence? Our want of a clear "conception" of a thing will never prove its non-existence.

Laying a stress on the well known difficulties in comprehending how the brain receives, retains, and reproduces ideas, does not diminish, much less explain one of them. The boundary which we cannot pass, but to which we are allowed to advance, is now tolerably well understood. We are compelled to own that the horse receives, retains, and experiences, the revival of the knowledge of the stable where he has only once in his life been well fed.

But the whole human body is renovated in seven years; con-

sequently, it is absurd, if mind be a corporeal function, to say that the mind of 1819 is the same mind as that of 1812. In what does the new matter continually deposited as the old particles are removed, differ from the latter? Are not all animals subject to similar changes?—yet who doubts the continuance and identity of the mental functions of the elephant, when ten or fifteen times seven years have revolved over his head? If the successionary particles of the body did not possess all the properties of those which preceded them, the work of the great Creator would have been imperfect, as is manifest without farther comment. Suffice it to add, that all reasoners who attempt to prove that the mind is the soul, are compelled to adopt a similar plan to that to which the acute journalists have resorted.

A decided, unsophisticated materialist, then, is he who confounds mental with intellectual function,—an unfounded inexplicable dogma, a gross error, rendering every thing dark and obscure; while, on the other hand, by adopting the contrary path, and ceasing to puzzle ourselves with attempting to explain the nature of that which never can be cognizant to human sense, we rationally foster the ray of light given us, and may thereby discover the operations of consciousness upon the mental functions.

Will any sober philosophic reasoner say, that insanity is an intellectual disease? Is it the immortal soul, destined to survive the "wreck of worlds," that is out of tune? Can medicinal agents restore the perturbed spirit emanating from the divinity to harmony? But of the effects of these agents on mental functions, it would be an abuse of time to expatiate.

To deny the immortality of the soul, is impiously presumptuous, as well as highly absurd. It is only one degree less so to argue on the spiritual nature of mind. It is conceded that the manifestations of mind are the result of "particular arrangement of matter," and why not the human mind? Is there more difficulty in believing the one than the other? But it is said, animal instinct is measured out like a given quantum of muscular power; it is not human reason, it is bound down to a prescribed limit, beyond which no change of circumstances will permit it to pass. This is not true. "A species of scarabeus was hastily engaged in making for the reception of its egg a pellet of dung, which, when formed, it rolled to the top of a small hillock, and repeatedly suffered to tumble down its side, apparently for the sake of consolidating it by the earth which each time adhered to it. During this process, the pellet unluckily fell into an adjoining hole, out of which all the efforts of the beetle to extricate it were in vain. After several ineffectual trials,

the insect repaired to an adjoining heap of dung, and soon returned with three of his companions. All four now applied their united strength to the pellet, and at length succeeded in pushing it out, which being done, the three assistant beetles left the spot and returned to their own quarters." (Kirby and Spence's Introduction to Entomology, Vol. I. p. 526.) On the subject of the perceptive faculty, memory, &c. of animals and insects, see p. 503 et 528 of the same work. In what then consists the difference between the faculties of these inferior beings, "the poor beetle which we tread upon" and proud man, but that the latter possesses an immortal soul, formed to unite with the mental faculty, in placing man so high in the scale of being "the image of his Maker," and "a little lower than the angels?" It may be added, without tautology, that if mind be soul, what an endless variety of souls exist? say between a Cretin of the Valais and Newton. It surely is an argument against fact, to say that "we find no organ that performs a double function." Such an assertion must have been hastily made, or the twofold office of the male organs of generation forgotten. Nor does this view of the most important of subjects derogate from the soundest religious or moral principles, but confirms and stablishes them on "the Rock of ages," in "minds thus fitted for the discovery and reception of truth,"—affording at all times, and under all circumstances, freedom from perplexing conjectures, embarrassing doubts, and ensuring perfect satisfaction and tranquil repose. It does, indeed, appear to my bounded comprehension, a gross absurdity to say that the "quickening spirit" can suffer a state of irritability, which can be removed by a dish of strong infusion of coffee; be rendered imbecile by the abuse of that charming dietetic beverage; tranquillized by a well-timed dose of opium; roused from stupor by a cordial stimulant, or depressed by a drastic cathartic. Yet to all these influences is Mr Lawrence's "mighty mind" subject,—which brainular function, the learned editors have used the most potent arguments to exalt into the "imperishable soul."

Lastly, in addition to the crowd of proofs already advanced of the distinction between soul and mind, it is only necessary to add a word on the phenomena of recovery from a fit of complete syncope or profound sleep. The subject is first informed by the faculty of the soul, termed consciousness that he still exists, not by memory, that most important of mere mental functions, for it has been so completely suspended by the state of body on which it is wholly dependant, as to be often a considerable time in resuming its function of recalling the knowledge of time, place, situation, and surrounding circumstances, with which the

subject was only a few minutes before so familiarly acquainted, mind resuming its functions rapidly, or otherwise proportionally, as the brain recovers from a state of collapse. In my apprehension, it is unphilosophical to elect an intricate path to travel in, when one freed from almost every difficulty presents itself to our choice; for this, in my opinion, is the true state of the case, between those who argue in support of the homogeneity of the soul and mind.

Such are the sentiments which have been charged with obtruding and advancing the tenets of "gross materialism," but it is a groundless charge, demanding the seizure of every opportunity for refutation, more especially by every writer, whose attempts to serve mankind have been heedlessly misconstrued, or wilfully perverted from their true intent and meaning. In confirmation of the correctness of the ideas here advanced, the sentiments of numbers of the best writers of this age might be quoted in their support; a reference to one only of the most able shall suffice, viz. Armstrong on Puerperal Fever, p. 4. "The secretion of milk was nearly suspended soon after the attack; the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom inquired after it." So truly is the state of mind dependent upon the state of body, and the intellectual faculty independent as it is immortal.

Chester, 1st February, 1820.

Note by the Editors.—On a former occasion, we felt ourselves imperiously called upon to attempt some observations on this important subject, and we then stated the difficulty which hangs over one part of it, arising from the manifestations in certain animals, resembling the phenomena of mind. We cannot admit that this has any very important relation to the great question, or weakens, in any degree, the argument for an immaterial and immortal principle in man. But still it has ever been felt as a difficulty in the investigation, and various doctrines have been proposed by ingenious men in regard to it. Some have considered it as of so little importance in the argument, that they have appeared to give it up. "This argument (says Baxter) doth not prove the activity of the brute soul when separated; though, if any one could prove it, he would do no disservice perhaps to philosophy." Others contend for various orders of immaterial principles, and that we have no reason to suppose that they should all be immortal. A third doctrine is that contended for by our ingenious correspondent, in the distinction which he proposes betwixt mind and soul. We do not think this doctrine is tenable, but we do not mean to enter upon the discussion. We merely state, what indeed must be obvious to every one, that it differs essentially from the flimsy materialism of the French school, against which we raised our feeble voice.

III.

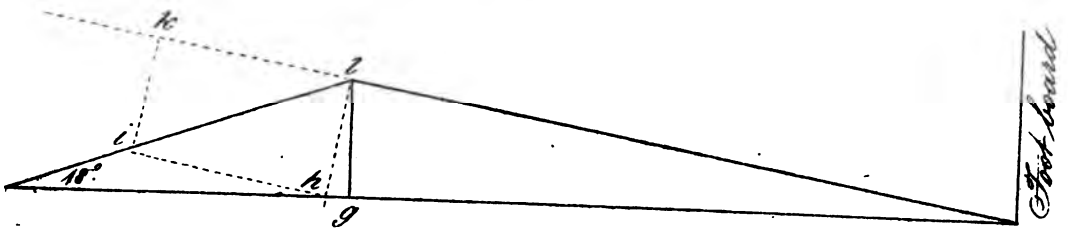
On the Application of the double inclined Plane for the Treatment of Fractures of the Lower Extremities. By BENJAMIN GRANGER, Surgeon. *(With an Engraving.)*

SUPPOSE the femur fractured, and the limb laid over a double inclined plane, with the two planes placed at an obtuse angle, as represented by the figure No. 1; What resistance can the leg give to the descent of the pelvis? This is a question which requires to be decided, both in relation to the utility of the machine, and the method of applying it. The received opinion is, that the leg so completely supports the pelvis, that when the limb is merely put upon the machine, no descent of the pelvis can take place, farther than the elongation of the muscles of the thigh would permit, or the purpose of their continued extension require. Thus Mr Charles Bell directs the limb to be merely laid upon the machine; observing, that "if the thigh-board be much longer than the femur, the muscles of the thigh will be *strained*." He farther observes, that the "weight of the body" is by the action of the machine "made to counterpoise the strength of the muscles, and to prevent their contraction." To ease the muscles "of the thigh," he says, "we must raise the hip, by placing a thin cushion under it—to *stretch* them, we must take the clothes from under the hip, or make the pad under the knee-joint larger." "To counteract the *dragging* of the muscles" incident to cases of fractured neck of the femur, his words are, "I know nothing more effectual than laying the limb on the frame already described. I do not imagine that any splints about the thigh or joint, or any kind of bandaging, will be more effectual to retain the limb in its natural position." (Principles of Surgery, Vol. I. p. 197.) In the ninth volume of your Journal, a correspondent advises the thigh plane to be longer than the thigh, that "the breech may not reach completely the bed, but *have its weight supported by the upper part of the leg* laid over the farther inclined plane." (p. 333.) The directions given by Mr Astley Cooper, in his valuable Surgical Essays, for the application of the MACHINE in fractures of the thigh, are, to all intents and purposes, the same as those just mentioned. It is taken for granted that the leg becomes fixed when placed on the frame; at least that the foot only requires to be supported to prevent its rotation outwards. To attend to

Plan of double inclined plane for fractured Thigh.

Fig. II.

Plan of double inclined plane for fractured Leg.



Drawn by A. Forrester — Printed from Stone by C. Rathbun

he line *b h* is perpendicular, and the line *b a* (the thigh
oblique to the lever. Now, when a force acts obliquely
arm of a lever, it is resolvable into two forces; one act-
the line of direction of the arm of the lever, and the
in a direction perpendicular to the arm. Let the dia-
b c, of parallelogram *b k i h*, represent the force of gravi-
he "pelvis," † independent of the support of the bed; for
estion *at present* is, not what is the resistance of the bed,
the leg to the descent of the pelvis? The one resistance
to facilitate the investigation, be considered separately
bstractedly from the other. The diagonal *b i*, being then
presentative of the whole force of gravity of the pelvis, the
h is the representative of the perpendicular, and the line
the parallel force; for these two forces are equivalent to
rce *b i*. The effect of the force *b h* can cause only rota-
r angular motion of the lever *about* the fulcrum *b*; and
fect of the force *b k*, on the other hand, can cause only
near motion of the lever, by drawing it *off* the fulcrum
ds *k*, on the line of direction of the plane *b k*; in other
, the mechanical power of a lever is opposed to the force
nd the mechanical power of an inclined plane to the force
The consequence is, that the resistance to the force *b k* is
an the weight of the leg, and the resistance to the force
many times *greater* than the weight of the leg. As to
tter resistance—suppose the distance from *b* to *e* 18½ in-
(the usual length of the leg,) then the line *b d* (the perpen-
r to the line of direction of the force *d f* from the centre
tion *b*, and therefore the length of the efficient lever of

tion *b h*. It would therefore be needless to proceed to prove that the resistance from the *whole weight of the lever* of resistance to the force *b h* is complete. This portion *b h* of the whole force of gravity of the pelvis, therefore, being annulled or destroyed, as it were, by the action of the lever of resistance, is incapable of causing any descent of the pelvis.

As to the resistance to the force *b k*—it is *less* than the weight of the leg. This is an obvious effect of the inclined plane. The respective gravity of the leg, which constitutes the resistance, is rather less than one-third of the weight of the leg; because the length of the plane is somewhat more than three times its perpendicular height. However, in the same time that the tuberosity of the ischium descends from *a* to *r*, the upper head of the tibia moves from *b* to *r*, or nearly twice the space. This, therefore, nearly doubles the resistance of the leg to the force *b k*. Allowing the resistance to be increased half as much more by the effect of friction, the amount of the whole resistance of the leg to the force *b k*, will, at most, be five-sixths of its weight. The resistance then, which the leg gives to the descent of the pelvis is somewhat short of its weight; and this is the decision of the question proposed. Now the weight of the "*pelvis*" so much exceeds the weight of the leg, that it may safely be admitted, without the trouble of calculation, that the force *b k* of the whole force *b i* will overpower the resistance —consequently that the leg of itself cannot prevent the descent of the pelvis.

It follows from these premises, that the amount of the resistance which the contractile power of the muscles of the thigh has to overcome, is not to be reckoned by the weight of the pelvis, but of the leg; and that, were the resistance from the weight of the leg equal to the contractile power of the muscles, as the pelvis is not supported by the leg, the bed will yield—the pelvis will descend—the thigh will recede from the plane—and the displacement of the fracture must evidently be the result of such change of position of the limb.

To obtain the advantages of the machine in cases of fractured thigh, therefore, the securing of the limb from any change of position is clearly an object of primary importance. The leg must be prevented from ascending the frame by making, as it were, *the heel a fixed point*. To obtain this object, let the inclined plane for the leg extend three or four inches beyond the heel—let the perpendicular board *c s* be added to the machine; this board, notched on each side, should be less broad and somewhat longer than the foot—let the middle of a belt be applied behind the ankle just above the os calcis—let each extremi-

ty of this belt be crossed over the instep, and conveyed round the foot-board to be fastened. The belt may be made of linen cloth, stuffed with cotton, and tape should be attached to each end for the convenience of tying. By means of this belt almost any degree of extension can be obtained. It also most effectually prevents the foot from rolling outwards. The splints are to be applied to the thigh in the usual manner. But should the fracture be of the neck of the femur, a long splint is then required. Mr Astley Cooper gives the following directions for the application of the long splint: "When the limb has been extended on the machine, a long splint is to be placed upon the outer side of the thigh, to reach above the trochanter major, and to the upper part of this is fixed a strong leather strap, which buckles around the pelvis, so as to press one portion of the bone upon the other, and the lower part of the splint is to be fixed with a strap around the knee to prevent its position being moved." (Surgical Essays, Part II. p. 50.) Perhaps in every case of fractured thigh, without distinction, the long splint should be employed, because the pelvis is apt to move inwards, and occasion angular displacement of the fracture. To prevent this inconvenience, I have found it necessary to confine the thigh close to the pegs on the outside of the frame, by encircling it with bands of linen cloth, and tying the ends of the pegs betwixt the plane and the horizontal board, and the pegs should always be made long enough to pass through the horizontal board to increase the support which they give to the limb. Should the long splint be preferred, the fractured limb must be *separated from the other*. Unless this circumstance be attended to, a firm splint could not be applied on a line with ilium and on a line with the thigh, without the patient inclining the trunk towards the side on which the fracture is situated, and thus lying in a crooked posture. I have to conclude these observations on the application of the double inclined plane, by recommending the summit of the two planes to be rounded off, so as to be adapted to the shape of the ham. A circular piece, too, should be cut away from the bottom part of the leg plane, that the heel may be received in the opening; which otherwise is liable to become painful from continued pressure. The heel, however, may be raised at any time a little from the board by tying the belt which secures the foot a notch or two higher.

The double inclined plane, I believe, was originally invented purely as a contrivance to keep the limb in that easy state of flexion as advised by Pott, with the view of relaxing the muscles. For this purpose, the elevation of the planes need not be so great as to render any fixing of the limb to the machine ne-

cessary. When the height of the planes has been such as is best adapted to resist the contraction of the muscles by the gravitating force of the body, I have not been able to succeed with the machine, without fixing the limb in the manner which I have described. The first time of adopting the machine for a fractured thigh, I attempted to prevent the shifting of the limb by rolling it to the frame; but, though the roller was of use, daily adjustment of the apparatus was essentially necessary. The second case in which I employed the frame, the knee was from day to day so far withdrawn from the summit of the two planes, that I was induced to substitute the method of treatment which I had heretofore adopted. "I was the more surprised at the failure of the machine, because the sinking of the pelvis was rendered less likely to occur, by the patient's lying on a mattrass with boards underneath to preserve the evenness of its surface. I will take this opportunity to observe, that, under any mode of treatment of fractures of the lower extremities, a great advantage will be gained by supporting the mattrass (which should always be preferred to a feather bed) on boards put across the frame of the bed." An instance, too, of the double inclined plane having within a few months being put in practice at Guy's Hospital for a fracture of the body of the femur, has been mentioned to me by one of the pupils in attendance at the time. —He informs me that the displacement of the fracture in two or three days had become so manifest, that the machine was given up, and exchanged for the plan of cure in the extended position of the limb.

Having found the double inclined plane an excellent contrivance for the prevention of a shortened limb, not only in fractures of the thigh, but also in oblique or comminuted fractures of the leg, whether compound or not, my intention was to have finished this communication by describing the method of using the machine in cases of fracture of the leg, as it varies in many particulars from that which is suitable in cases of fracture of the thigh. Finding, however, the paper grown longer than I had expected, I must dismiss the subject, for the present at least, by recommending the machine of the form represented by figure No. 2. for fractures of the leg; and by observing, that should the machine of the form represented by No. 1. be used, then the heel must be elevated nearly to the height of *d*. The perpendicular board must consequently be lengthened to *V*, and an horizontal board must proceed from the plane at *y* and extend to the board *V c*. The necessity of this alteration in the frame No. 1. is this—the lever of resistance being shorter, and the weight (that is the foot) being detached, the force *b c* moves the

lever from the plane to the horizontal line *b d*. The lever of resistance then becomes longer, and the lever of the power shorter; therefore the extent of elevation of the leg from the plane is limited to the line *b d*. By the second figure it will be perceived, that not only the force of gravity would be materially less on a machine of this form than on one of the form represented by figure No. 1.; but that a very small portion of the force has any tendency to act upon the leg as a lever, or to elevate it from the inclined plane.

Burton upon Trent, July 20, 1820.

IV.

Account of several Cases of Secondary Small-Pox, which have recently occurred in the Military Hospitals of Edinburgh Castle. By SAMUEL HILL, Member of the Royal College of Surgeons, London, and Assistant Surgeon to the Forces in North Britain. Addressed to Dr HENNEN, Deputy-Inspector of Hospitals, and communicated by him to Dr DUNCAN, Junior, Joint Professor of the Theory of Medicine in the University of Edinburgh.

SIR,—Agreeably to your request, I proceed to give you a short history of the cases of small-pox which have lately occurred under my observation in the Detachment Hospital at Queensberry House and in Edinburgh Castle.

These cases appear to me to be interesting, not only on account of the great diversity of appearances which the disease exhibited in the different persons attacked by it, but also from the circumstance of its proving fatal to one individual, who had previously passed through the natural small-pox.

I remain your's faithfully,

Edinburgh, 3d Nov. 1820. SAMUEL HILL.

To Dr Hennen,

Deputy-Inspector of Hospitals, Edinburgh.

CASE I.—JAMES CARSON, æt. 17 years, recruit of the East India Company's service. Unvaccinated. A few days after having been enlisted, had a pass to see his friends, and, on the 4th February, the fifth day of his return, admitted into the Depot Hospital, Queensberry

House, with fever, accompanied by the appearance of several small-pox pustules on both his hands. He had been several days ill of fever, which, at the time of admission, was severe. During three days the eruption continued to come out very numerously on the face, which was swollen, accompanied by sore throat. In the progress of the disease, the eyelids were tumid and closed, and pustules coalesced on the face and hands. There was a considerable difficulty in deglutition, accompanied by increased secretion of saliva. The fever abated on the second, and subsided on the third day of the eruption, which blackened on the face by the eighth, and on the body and upper extremities on the tenth day.

The scabs continued to separate for several days, leaving behind deep depressions and blains of the cutis. On the twenty-eighth day from admission, he was dismissed.

This was a case exhibiting the character of distinct small-pox.

A sister of the patient, who was unprotected, visited him during the time he was in the hospital, and soon after was attacked with the disease, which she communicated to another sister in the country, to whom it is said to have proved fatal.

Case II.—James Mitchell, 92d regiment, æt. 18 years. Vaccinated. Was admitted into the Detachment Hospital, Queensberry House, 29th March 1820, with what were considered to be the symptoms of pneumonia, and an appearance of some vesicles, similar to those of vesicular itch. For the pneumonic symptoms he was largely bled, and took purgative medicines, which were followed by considerable mitigation of them. Two days after, he experienced a fresh attack of fever, without any other of the usual symptoms of inflammation of the lungs. The same evening, an eruption, very numerous on the face, made its appearance on the body, which, in the course of two days, first became vesicular, and afterwards pustular. About this time, the face was flushed and swollen, and the throat became sore, accompanied by difficulty of deglutition, and increased secretion of saliva. These symptoms for three days were much increased, and attended with a considerable degree of fever, which subsided on the fourth day of the eruption, which, by the sixth day, began to blacken on the face and forehead, forming, in some parts, thin dark horny scabs, and in others thin flat crusts, which, on falling off, left behind slight tubercular elevations of the cutis and blains.

The period of blackening and scabbing of the eruption on the extremities was two days later than on the face, where the elevations of the cutis were in greater proportion than were observed to be on the body or extremities. On the fourteenth day of eruption dismissed the hospital.

Case III.—John Falconer, 26th regiment, æt. 19 years, having a distinct cicatrix from the process of vaccination visible on the left arm, experienced a smart attack of fever about the 23d April. This was succeeded by the appearance of a vesicular eruption on the

26th, which continued to come out till the 1st May, when it appeared in its various stages, from that of vesicles with limpid contents, others containing a milk like fluid, and some dry, covered by a small thin dark scab. The scabs continued to form for three or four days, and then fell off, leaving behind them neither depressions nor blains.

Case IV.—Miss S—— æt. 16 years, who had been vaccinated in Sicily, at about the age of six months, and a distinct cicatrix from that process visible on the left arm, was attacked with severe fever on the 16th July. On the 17th she was bled, and some saline opening medicine given her, under the belief that it was an attack of simple fever. The symptoms, however, underwent no remission until the 18th, when a papular eruption shewed itself on her face, forehead, neck, and arms. This in some parts was surrounded by an erythematous areola of some extent, and in others more exposed; the papulæ were unaccompanied by any inflamed margin. The fever with its concomitant symptoms now underwent a marked remission, and she only complained of a sense of giddiness and weakness when in the erect position. The papulæ continued to come out in successive patches for three days, while those which had first appeared, became in that time, first vesicular, and afterwards pustular. The pustules began to blacken on the face on the sixth day, while those on the body and extremities were two days later in undergoing the same change. The pustules formed at first their horny scabs, which in falling off left behind them tubercular elevations and blains.

Case V.—Master J. S—— æt. 14 years, brother of the foregoing, vaccinated at 12 months old in Ireland, and having a distinct cicatrix visible on both arms, was taken ill 17th July, with giddiness, nausea, pain at the epigastrium and bowels, with slight fever. These symptoms, with little variation, continued till the 23d, when a few vesicles unpreceded by papulæ, about twenty in number, containing a limpid fluid, made their appearance on his face, neck, breast, and arms. These vesicles were small and conoidal, surrounded by a slightly inflamed areola. Their contents gradually acquired a turbid milky appearance, and in four days began to harden into thin scabs, which speedily fell off, leaving the cuticle smooth and even, but slightly red in the places which they had occupied.

There was nothing in the appearance of this eruption which could enable the observer to distinguish it from a well-marked example of chicken-pox, though there was no reason to believe that he had been exposed to any other contagion than that of small-pox.

Case VI.—Mr S——, eldest brother of the foregoing, æt. 18 years, had been vaccinated at nine months old, a distinct mark of which was visible on the right arm; was seized with fever on the 1st of August, followed on the evening of the 2d by an eruption on the body, which continued to come out for four days, during which time there appeared to be very little remission of the febrile symptoms; the

nausea and pain at the epigastrium experienced were described to be most distressing. The eruption in this case followed a similar course, and presented the same appearances as that in the case of his sister, from which there was little or no difference to be observed.

Case VII.—Rose Coghill, recruit 79th regiment, æt. 17 years.—Though bearing on his face, and other parts of his body, about fifty distinct marks, similar to those left by small-pox, yet as he could give no distinct or satisfactory information of his having passed through that disease, was vaccinated on June 15th in each arm.

The vaccination passed through its different stages in a regular manner.

On the ninth day of vaccination was attacked with fever, which continued severe for three days, when it was succeeded by a very thick eruption over the body, but most numerous on the face and forehead. In the course of four days this eruption became first vesicular and afterwards pustular, accompanied by flushing and swelling of the face, and soreness of the throat.

The latter symptoms continued severe for three days, when the pustules on the face began to blacken, and those on the body and extremities followed the same course two days afterwards. The scabs continued to fall off for near a week, leaving behind them tubercular elevations of the cutis.

This patient was dismissed the hospital on the 18th day of the eruption.

Can the regular progress of the vaccine vesicle in this case be considered as a decisive proof, that the marks mentioned as existing at the time vaccination was performed, had not been occasioned by small-pox? And if not, on the supposition of these marks having been occasioned by previous small-pox, are we to ascribe the mildness of the last variolous eruption, partly to the effect of the former small-pox, and partly to that of vaccination?

Case VIII.—Murdoch Ferguson, recruit 79th regiment, æt.—Unvaccinated. Was attacked with severe fever on the 8th July 1820, which continued for four days, when it was followed by a remission, on the eruption of some papulæ over the body, which proved to be that of small-pox, and in all its circumstances exhibited an exact resemblance to that noticed in the last case.

It deserves to be mentioned, that this patient, as well as the recruit Coghill, was examined at the Castle, to ascertain if he had previously been subjected to vaccination, or passed through small-pox; about fifty marks, similar to those existing in Coghill, were visible on his face and body, and he stated that he had been told by his mother, he had in his infancy passed through the small-pox. This statement, corroborated by the appearances on his body, being deemed satisfactory, he was not subjected to vaccination.

Is the horn-pock form of the disease in this case to be considered as a modification, occasioned by his having previously passed through small-pox?

Case IX.—Jane Johnstone, 4th Royal Veteran Battalion, æt. 27, was attacked on the 27th July with fever, the symptoms of which were very severe, and lasted for six days, and during that period was bled three times, and took saline purgatives and diaphoretic medicines. The fever was succeeded by a very thick papular eruption on the face and body, which continued to come out for three days, when the febrile symptoms abated. In three days more the eruption became first vesicular, and afterwards pustular, the pustules of which were large and flat, with central depressions. They were coherent on the face and forehead, which was flushed and swollen, accompanied by severe pain in the throat, difficulty of deglutition, and increased secretion of saliva. By the ninth day of the eruption, all the symptoms were increased in severity, and the eyelids were so much swollen as to occasion blindness. She was now attacked with a considerable degree of fever, which continued severe until the eleventh day of the eruption, and was accompanied at night by slight delirium.

The pustules began to blacken on the face on the 11th, when the secondary fever abated; those on the body and extremities were some days later in undergoing the same process. The scabs which were formed, on falling off left behind them large depressions and blains on the face, but many of those on the extremities were succeeded by slight tubercular elevations of the cutis.

The blains were visible forty days from the first appearance of the eruption, and the depressions were to be seen several months after, during the time she remained in the Castle.

This woman stated, that, while living at Leicester, in 1811, she remembers she had been affected with small-pox, which she caught naturally, a great number of distinct marks of which were visible on the body, and a few on different parts of her face. She also stated that the eruption remained out nine days before it began to blacken, and many of the pocks on her arms and body were large and flat.

Her husband (a soldier 4th Veteran Battalion) stated also, that he recollected the circumstance of her having passed through the disease, and under this conviction, she had been frequently since exposed to the contagion of small-pox, without entertaining the slightest apprehension of again becoming affected with it.

In this case, no mark of modification could be perceived in the eruption with which she was last affected, though there does not seem any reason whatsoever to doubt, that she had previously passed through the natural small-pox.

Case X.—Jane Fowler, æt. 15 months, was attacked with fever on the 1st September, attended by convulsions, which returned frequently, and continued more or less violent until the 3d; when a papular eruption appeared over the whole body, but was most numerous on the face.

Towards the evening of this day, the eruption seemed to go back, when the convulsions which had in some degree subsided on the appearance of the eruption, returned in a violent manner, and con-

tinued during that night. On the morning of the 4th, the eruption reappeared, and at the same time the convulsions and fever went off.

In three days the eruption became vesicular, confluent, of an ash colour, with central depressions, and having all the characters of malignant water-pox. The face was at this time much swollen, the eyelids tumid and closed, and the child seemed to suffer much pain and difficulty of deglutition.

These symptoms continued increasing until the 9th, when secondary fever, accompanied by a puffy swelling of the hands and arms, difficult respiration, great restlessness, and a small rapid pulse, supervened, and proved fatal on the eleventh day.

This infant, while in the barracks at Dundee, some days after having frequent intercourse with a child residing in the town of Dundee, during the time it was affected with malignant water-pox, of which it died, was attacked, in the month of February last, with a varioloid eruption, preceded by fever and sickness of three days duration. That eruption, as described by its mother, was at first papular, and afterwards became pustular. The pustules, which were numerous, and accompanied by swelling of the face, did not begin to blacken before the ninth day. The scabs, on falling off, left behind them a considerable number of depressions and blains of the cutis on the face and body, the latter of which were distinctly visible at the time this infant was attacked with the small-pox of which she died.

Five other *unvaccinated* children, living in the same barrack room with Fowler's child, were successively attacked by a varioloid eruption; which, though from the description given of it, seemed to have been of a milder form than that in Fowler, left behind it more or fewer depressions of the cutis in them all.

Case XI.—Mary Langthorn, æt. 12 months, one of the five children mentioned as having been affected with the varioloid disease at Dundee, was on the 15th August attacked with sever fever, accompanied by slight convulsions and coma; which symptoms continued more or less violent for three days, when a papular eruption appeared over the body, and was followed by a mitigation of the febrile and other symptoms. The eruption continued to come out in a papular form for three days, and these papulæ became first vesicular, and afterwards pustular. The vesicles and pustules had central depressions, and were surrounded by an erythematous areola.

On the face, the pustules were in some parts coherent, and in others of the body and extremities they coalesced. They continued increasing in size, accompanied by swelling of the face and eyelids, with closure of the latter. These symptoms continued till the ninth day of the eruption, when secondary fever supervened.

On the tenth day, the pustules began to blacken on the face, while those on the body and extremities did not blacken till the twelfth day. In many parts of the face, where the pustules had been scratched, they were covered with thick yellow crusts, but in other parts of the face and extremities, where they were allowed to remain undisturbed,

they terminated in thin horny scabs; which, after falling off, left behind them depressions and blains, the latter of which were visible on the fortieth day of eruption.

This child, and others who had passed through the varioloid disease at Dundee, were examined at the Castle, in order to ascertain if they had been vaccinated or passed through small-pox; and as the accounts given of the disease with which they had been affected, corroborated by the appearance of the marks on each, seemed satisfactory proofs that it had proceeded from the variolous infection of malignant water-pox, from the child who died at Dundee, communicated first to Fowler's, and subsequently from it to other children in the same barrack-room; it was judged unnecessary to subject them to vaccination.

It is proper to state why this had not been done at Dundee; and it appears, that the corps to which the individual belonged, at that time being newly formed, and changes in its distribution taking place, were obstacles to its easy accomplishment.

Case XII.—On the 3d August 1820, Mary Baskin, aged 14 months, was inoculated in both arms with lymph taken from a vesicle of Mrs Pringle's child, in Jamaica Street, which had been vesicular from its commencement. On the 4th, the punctures were slightly inflamed, but by the fifth day after the insertion of the lymph, inflammation had disappeared.

On the 16th, the 14th day from the insertion of the lymph, a small vesicle appeared on the right arm in the spot where this had been performed, surrounded by a bright areola of the size of sixpence. A minute papula also appeared the same day on the opposite arm, where the lymph had been inserted, without being surrounded by any inflamed margin. The child had been for a day and night, preceding these appearances, feverish and sick, and was during that time unusually fractious and uneasy. On the 15th day, the vesicle on the right arm was somewhat larger and flat, the areola more faint than the preceding day; the papula on the left arm seemed on the decline.

The vesicle became pustular and slightly depressed in the centre on the 16th day. The areola was more vivid than on the preceding day. The papula on the left arm had lost its redness, but was still elevated.

On the 17th day, the pustule was larger and more prominent. The areola seemed on the decline. Papula on the left arm not altered since the preceding day.

The pustule had begun to blacken on the 18th day. The papula was slightly elevated, but of the same colour as the surrounding skin.

22d day. The scab which had formed on the right arm fell off, leaving behind it a slight depression and discoloration of the cutis. The left arm exhibited no mark of where the papula had been situated. During all this time, no eruption whatever was perceptible on any part of the body.

On the 5th of September following, this child experienced a fresh attack of fever, accompanied by vomiting and slight coma, of three days duration, when a few small hard acuminated papulæ made their appearance on the body, and one or two of the same description on the face, followed by a relief of the febrile symptoms. The papulæ continued to come out for three days, though few in number, when some of them became vesicular, and a few had central depressions, others not. Those which had come out at a later period became also in the course of two days vesicular, a few coalescing on the face and hands.

On the sixth day of the eruption, the vesicles became pustular, they gradually filled, and began to blacken on the face on the eighth day, and to form thin horny scabs on the tenth; when those on the extremities began to blacken on the 12th; some of the scabs, on falling off, left behind them slight depressions of the cutis.

Case XIII.—James Pringle, ætat. 12 months, Jamaica Street, No. 23, vaccinated nine months ago.

On Sunday the 31st July was seized with febrile symptoms, and on the evening of the following day two pure vesicles were observed on the left forehead.

Tuesday, 1st August.—A roseolous rash appeared on the neck, which, in the course of two hours, extended from thence over the whole surface of the body. This rash was followed in the evening by several pure vesicles on different parts of the body. These vesicles seemed to be formed by a layer only of the cuticle, they were so thin and transparent. On letting out with a lancet the fluid which they contained, a slight elevation was perceptible to the feel around their margins.

Wednesday, 2d August.—Several more vesicles have appeared; those which came out yesterday are still purely vesicular; the two vesicles which appeared on the forehead on Monday have assumed a milky colour; roseolous rash still apparent.

Thursday, 3d August.—A few more vesicles have appeared. Several of those which came out on the two preceding days have now become slightly turbid, the rest remaining purely vesicular; the roseolous rash has entirely disappeared, except from around the individual vesicles, where there is a slight erythematous blush.

Friday, 4th August.—A few more of the vesicles have assumed the milky appearance; the master pocks, which have been scratched, have irregular scabs on their surface; the contents of a few of those on the abdomen and upper part of the thigh, which have likewise been scratched, have now assumed a more distinctly purulent appearance, and the erythematous blush with which they were surrounded has now put on the appearance of erysipelatous inflammation.

Sunday, 6th August, seventh day of eruption.—Several of the vesicles on different parts of the body have begun to scab, while others are still of a semitransparent colour. The fever, with which the child

was more or less affected during the last five days, seemed to have entirely left it.

Monday, 7th August.—Many of the vesicles are entirely scabbed over, some of them with distinctly horny, and others with irregular dark-brown scabs; those which are not yet entirely scabbed over have minute scabs on their surface, with milky matter underneath.

CASE XIV.—MARGARET PRINGLE, ætat. 14 years, vaccinated when three months old.

About two years after vaccination, had a severe attack of what was called chicken-pox, which was at the time prevalent in Rose Street, and which have left cicatrices much more like those of natural small-pox than of chicken-pox.

About three months ago, after having been exposed to the contagion of natural small-pox, was a second time severely affected with chicken-pox, which the medical attendant said resembled very much natural small-pox, both in its general appearance and in the length of time that elapsed between the appearance of the eruption and the time of its decay, and between this and the falling off of the scabs.

The attack of chicken-pox, which has left numerous small pits in parts of the skin, was ushered in by severe febrile symptoms, accompanied with delirium. The roseolous rash likewise came out before the general appearance of the eruption.

The girl had an attack of scarlatina about two months previous to the second occurrence of chicken-pox.

August 7, 1820.

CASE XV.—LOUISA M'GRIGOR, æt. 15 months, Jamaica Street, No. 23, vaccinated about ten months ago, has been affected with hooping-cough for two weeks past.

On Monday, 31st July, was observed to be rather heavy and feverish; and, on Thursday the 3d August, a pure vesicle was discovered on the back of the left hand, and another on the upper part of the left thigh.

Friday, 5th August.—Several more distinct vesicles have appeared on different parts of the body.

Sunday, August 6th.—Several of the vesicles, which have been scratched, are slightly purulent, and surrounded with an inflammatory circle, while the remainder are still purely vesicular.

Monday, August 7th.—The whole of the vesicles have assumed a milky appearance, and have begun to blacken, except the one which appeared first on the back of the left hand, which is still almost purely vesicular, with a minute scab on its surface.

The eyes have been considerably affected, probably owing to the hooping-cough.

CASE XVI.—LACHLAN M'GRIGOR, æt. three years, vaccinated about two years ago, has had hooping-cough for about ten days.

On Thursday, 3d August, became feverish; and, on Sunday the

6th, a few small vesicles appeared on different parts of the body, unattended by any apparent surrounding inflammation.

Monday, August 7th.—A few more vesicles have appeared; several of those which came out yesterday have subsided, leaving scarcely any perceptible mark behind, except a minute elevation, while others are purely vesicular.

From the different circumstances and forms under which the variolous disease was observed to exist in the patients whose cases have been detailed, it appears to me, that they may not be improperly arranged in the following manner:

Previous State of Constitution.	*No. of Cases.*	*Form in which the Disease Appeared.*
Unprotected,	1	Distinct small-pox. Case 1.
Protected by previous vaccination,	5	Modified and mild small-pox. Cases 2, 3, 4, 5, 6.
Supposed to have been protected by having passed previously through small-pox,	5	Two of whom had the subsequent disease in a severe manner, in the form of horn-pock. Cases 7, 8. Three in whom the subsequent disease was unmodified, severe, attended by secondary fever, which was fatal in one on 11th day. Cases 9, 10, 11.
Unprotected; but was inoculated with lymph from a vesicle of supposed chicken-pox,	1	In whom the disease was in the mildest form of modified small-pox, after having suffered from local and constitutional symptoms from the inoculation of varicella. Case 12.

It is seen from the histories, that the disease, in the five cases modified by vaccination, assumed two distinct forms, namely, that of horn-pock, and that of varicella, though there was no reason to believe that these two forms of the disease could have had separate origins. The two cases which assumed the form of varicella occurred at different places and periods, in situations surrounded by individuals labouring under small-pox in its other various forms.

Of the five cases where the individuals were supposed to have been protected by having previously passed through an eruptive disease, considered to have been small-pox, the history of it, furnished by two, was not so precise in its nature as could have been wished; but the cicatrices on the bodies and faces of these patients, were obviously of the number and form similar to those

which are not unfrequently left by that disease; and as these persons were, during the last attack, seen by many professional gentlemen, and by some more than once, among whom were yourself, Dr Duncan junior, Dr Burton, and several others, who all concurred in the opinion, that the marks left by the former eruption were those of genuine small-pox, my belief in the truth of that supposition was strengthened. With respect to the facts and circumstances connected with the histories of the first attacks of the eruptive disease in the remaining three of this class of patients, I think that the proofs are so strong as to leave no doubt in the mind of every candid reader, that they were in all those of genuine small-pox.

The history of the foregoing twelve cases, and the circumstances connected with several of them, appear to me to be curious and interesting on many accounts.

Firstly, The proportionably more frequent occurrence of secondary attacks of small-pox within the last twelve months than appears to have taken place in the earlier period of the epidemic. For, besides the cases I have detailed, I have had the opportunity of observing other five cases in which a second attack of small-pox had taken place, whose histories are well authenticated, three of which, I believe, were seen by yourself; but, as they have occurred in the practice of other gentlemen, I do not conceive myself at liberty to take any more particular notice of them. What surprises me is, that I should have seen so many cases of secondary small-pox in a period so short as that in which I have been stationed in Edinburgh, while I do not recollect ever having noticed a single example of this occurrence in the observation of several variolous epidemics during the fifteen years I have been engaged in practice.

Secondly, The very great proportion of secondary cases occurring among so small a number of individuals; for, calculating only on those which are well authenticated, it is as one to four; but if the others (which are only doubtful from being deficient of the testimony of the individuals themselves) be admitted, it will be increased to more than one in three.

Thirdly, The unmodified form, the secondary form, and unusual severity of the symptoms which accompanied the disease in those who, there was no reason to doubt, had previously passed through small-pox, and the circumstance of its proving fatal in one who had obviously done so.

Fourthly, The greater comparative mildness of the disease observed in those who had been previously vaccinated; in three only of whom the eruptive fever appeared to be severe, but of short duration.

Fifthly, The occurrence of two examples of the disease under the form of varicella, where the individuals had lived in the same apartments with those affected with small-pox, and to which source of infection the disease could be distinctly traced.

Sixthly, The disease occurring in a mild and modified form in an infant, who had been inoculated thirty-three days before, with lymph taken from a vesicle considered to be that of pure varicella, and who, fourteen days after the inoculation, was affected with local and constitutional symptoms from the vesicle produced by the inoculation, which in one arm assumed a pustular character, though no eruption whatever appeared in any other part of the body.

And *lastly*, On account of the disease said to be varicella, in the child from whom the lymph was taken, having been satisfactorily traced to the infection of modified small-pox, from a house in the same street, directly opposite to that in which this child lived, where a girl of 14 years of age passed through the disease in a modified form, having, as it is supposed, caught the infection at school.

I am indebted to my friend, Mr M'Intosh, for the history of this, and three other cases of a similar nature, which occurred at No. 23, Jamaica Street, (vide Cases 13, 14, 15, 16,) from the first of which the lymph was taken for the purpose of inoculating the child above noticed; and I am informed by Mr M'Intosh, there had been much and frequent previous intercourse between the inhabitants of the two opposite houses.

V.

Observations on Ischuria Renalis. By JOHN ABERCROMBIE, M. D.

BETWIXT the urinary secretion and various other functions of the body there exists a connection which presents some remarkable phenomena. The minute relation of these phenomena will probably ever elude our researches; but, in a practical point of view, they open a most interesting subject of investigation. The inquiry is twofold: (1.) The manner in which the secretion of urine is affected by disorders of other functions. (2.) The effects which morbid conditions of this secretion produce upon the system in general. In endeavouring to

contribute something to this important and interesting inquiry, I submit a few observations on the true Ischuria renalis, or suspension of the secretion of urine.

Morgagni is said to have been the first who distinguished Ischuria into four species: renalis, ureterica, vesicalis, and urethralis; the two latter being the common cases of retention from disease of the bladder or urethra, and the second retention in the pelvis of the kidneys from obstruction of the ureters. The first is an affection of a different nature; a morbid condition of the secreting organ itself, by which the secretion is completely suspended. It is a disease of so rare occurrence, that neither Morgagni nor Valsalva had ever an opportunity of examining the body of a patient who died of it, and very few examples of it are to be found in writers of more recent date. If the cases, therefore, which I mean to describe, shall be considered as genuine examples of this remarkable affection, they are probably worthy of being recorded; and the remarks which I shall offer in connection with them, I merely propose as a slight outline, to be corrected by future observation.

The disease seems, in general, to come on suddenly; and, at its commencement, there is usually some complaint of pain, which varies considerably both in its seat and its severity. It is sometimes referred to the region of both kidneys, sometimes to one side, and sometimes extends through the abdomen, like the pain of cholic. It is in some cases a dull uneasiness, rather than actual pain. There is frequently, but not always, vomiting; the pulse is in some cases frequent,—in others natural. The peculiar symptom is a sudden diminution of the secretion of urine, which soon amounts to a complete suspension of it. The affection is probably at first considered as retention; but the catheter being employed, the bladder is found to be empty. This leading symptom then continues; the others vary; there being in some cases continued pain, in others the pain ceasing. Vomiting may occur at various periods, and there is sometimes a peculiar feeling of extreme sickness and exhaustion, which at first is apt to convey the impression of sinking, but which is often found not to be of this nature, by being accompanied by a full firm pulse. With these, and some other varieties, the symptoms now go on for several days; after which, the patient generally begins to talk a little incoherently, and shews a tendency to stupor. This increases gradually to perfect coma, which in a few days more is fatal, death being sometimes preceded by convulsion; and, in some cases, convulsion has been suddenly fatal, with very little coma. The periods of the disease vary

considerably; but in general, I think, the occurrence of coma may be expected about the fourth or fifth day from the time when the secretion of urine became completely suspended.

On dissection, there is usually found effusion in the brain, though sometimes it is in small quantity. I have not observed it to have urinous qualities, as it has been said to exhibit in some cases; but this curious point remains to be investigated. The appearances in other organs vary considerably, and are frequently obscure and unsatisfactory. In some cases, there is reason to believe that the original disease was an inflammatory action in the kidneys themselves, or in one of them; but in others, no morbid appearance can be detected there. It seems probable that the disease may be excited by inflammation seated in the neighbourhood of the kidneys, as in the peritonæum, perhaps in the spleen or its covering, and sometimes in the liver. In a case by Schenckius, in which the disease supervened upon a blow on the loins, there was an abscess among the internal muscles; in one by Lælius a Fonte, the left kidney was found black; and, in several cases by Hildanus and Bonetus, there were extensive marks of inflammation in the kidneys and neighbouring parts. In Case I. of this paper, there was a remarkable appearance of inflammation and gangrene in the adipose substance behind the left kidney. In this case, also, the liver was distinctly affected, which is perhaps a circumstance worthy of some attention. Cases of jaundice have been observed which terminated unexpectedly by coma, while the jaundice was quite recent, and no symptom had been taken notice of which seemed to indicate danger. I do not know that these cases were allied to the disease which is the subject of these observations, but there are some grounds for supposing that they were, and the subject is worthy of particular investigation.—In a case by Scroeckius, fatal by coma in 17 days, the left kidney was found diminished to the size of a small egg, and of cartilaginous hardness, and the blood-vessels belonging to it were obliterated. Nothing is mentioned of the right kidney, except that it was much enlarged. The disease seems also to arise from calculi, or quantities of sand filling the pelvis of the kidney; and in Case IV. it arose from calculi obstructing both ureters. This case, indeed, may be considered as properly an example of ischuria ureterica; but the secretion must have been suspended at an early period, as appears from the small quantity of urine that was found in the pelvis of the kidneys; for in some other cases, in which the ureters were obstructed, the pelvis has been found enormously distended or ruptured. A remarkable circumstance in the history of the

disease is, that it seems in some cases to arise from a cause affecting one kidney, the other being quite healthy.

The causes of the disease, in its idiopathic form, are not well ascertained: it is frequently referred to cold, especially to cold applied when the body is much heated. I have reason to believe that it may supervene upon gonorrhœa, especially when the discharge has been suddenly checked by improper treatment.

The prognosis is in general unfavourable, and the fatal termination is usually by coma. This may be dreaded when the suspension of urine has continued four or five days; but in a case described by Dr Laing, in Vol. X. of this Journal, there was a complete suspension of the secretion for nine days, and yet the case terminated favourably; the urine, after that interval, beginning to flow, and soon returning to the healthy condition. On the other hand, in Case II. of this paper, coma appeared about the fifth day from the suspension of the secretion, and was fatal, though the urine was secreted in its full quantity for two days before death. In a case described by Dr Home * there were dropsical symptoms. This does not seem to be a common occurrence, though *a priori* we should expect it to be so. Some other cases, again, have been suddenly fatal by convulsion, without continued coma.

The most singular circumstance in the pathology of the disease, is its tendency to terminate by coma and effusion in the brain. The minute connection here will probably ever elude our researches, but in a practical view it is of great importance, and presents a most interesting subject of investigation. There have been various observations, or perhaps conjectures, in regard to the influence of the urinary secretion upon the functions of the brain, and the effect of diuretics in preventing or relieving certain affections of that organ. They were long ago supposed to prevent or diminish the effects of intoxicating liquors, and, by writers of eminence, they have been recommended in epilepsy and mania.† Whatever importance we may attach to this suggestion, I believe that the connection pointed at by these observations, is worthy of some attention in affections of the brain.

On the other hand, it is an important fact to be kept in mind in this inquiry, that cases have occurred, in which the secretion of urine was completely suspended for a considerable time, without being followed by any affection of the brain, and sometimes

* Home's Clinical Experiments, p. 288.

† See Portal, Cours d'Anatomie Médicale, Tom. V.

without the occurrence of any urgent symptom. In some of these cases, copious perspirations occurred, or other vicarious discharges, but in others, no such discharges took place. Dr Parr mentions a case in which the secretion was suspended for six weeks, and there was no vicarious evacuation, except a copious perspiration for a day or two; medicine seemed to give no relief, and the secretion at last gradually returned. In the Biblioth. Med. for 1815, a case is related, in which the secretion was suspended for several months; it proved fatal by gradual exhaustion without any urgent symptoms. On dissection, the omentum was found soft as if decomposed; the kidneys were imbedded in masses of a fatty looking substance, which had the hardness of scirrhus; the kidneys themselves had a cartilaginous firmness; the pelvis of both was filled by calculi, the left contained four, and the right but one, which exactly filled it. M. Nysten has described several cases in which suppression of urine was succeeded by copious vomiting of a fluid, in which, he says, he detected urea, uric acid, and the other ingredients of urine.* Similar cases are related by Pechlin, Valisneri, and others, and in a young man mentioned in the Upsal Transactions, the saliva is said to have exhibited urinous properties for four days, while he was affected with suppression of urine.

Examples of the Disease.

Case I.—A man aged 39, in the night of 14th January 1817, was seized with vomiting and pain in the back, stretching round the abdomen; he made water frequently, but without pain. On the 15th, had pain and occasional vomiting, but was not confined to bed, and was not seen by any medical person; made water frequently.

16th. Was seen by a surgeon, who found him with an exhausted look; pulse feeble, and below the natural standard; frequent vomiting; bowels costive; passed no urine.

17th and 18th. Less appearance of exhaustion; pulse natural; bowels moved by purgatives; no urine; occasional vomiting and hiccup; pain abated. On the 18th, a degree of jaundice appeared.

19th. (I saw him for the first time.) Frequent vomiting and hiccup; jaundice; pulse 72, and of good strength; bowels open; an evident tendency to coma; no urine; the catheter passed easily, and brought off about ℥i. A full bleeding was employed, which he bore well, and the blood was very buffy. He was then treated by purgatives; blistering; various diuretics; turpentine by the mouth and by glyster, &c.

20th. No vomiting since the bleeding; incessant hiccup; pulse

* Nysten, Recherches de Physiologie et de Chimie Pathologiques.

natural; no urine; appearance rather improved; and at night a small quantity of urine was brought off by the catheter.

21st. No vomiting; less hiccup; pulse natural; coma increased; bowels open; about ℥vi. of urine by the catheter.

22d. Pulse 84; hiccup and coma increased; ℥vi. of urine by the catheter; jaundice continued; died in the night.

Dissection.—The liver along the upper and outer part of the right lobe was very soft and broken down. The lower part of the right lobe of the lungs was very dark coloured and soft, and adhered to the diaphragm. The kidneys were a little redder in the colour than usual; the ureters and bladder were healthy. The principal seat of disease seemed to have been the adipose substance behind the left kidney; at this place there were extensive marks of inflammation, and a part was quite black.

In this remarkable case there seemed to have been inflammatory action affecting various organs, but it did not appear to have affected the kidneys. The disease in the adipose substance behind the kidney is a singular affection, which has been observed in other cases, though without the symptoms which occurred in this case. A lady aged 30, after violent exercise, and being much heated, sat for some time in a current of air. In the evening she had pain in the bowels and vomiting. Next day she took a purgative, and at night felt much relieved. In the night she had pain in the back, with much restlessness, anxiety, and coldness, sunk rapidly, and died next day. The urinary secretion had been natural. On dissection there were marks of inflammation in the pancreas, and on the colon where it lies over the left kidney. The whole of the adipose substance surrounding both kidneys was in a gangrenous state, exhibiting a large mass of black pulpy matter, and there were slight traces of inflammation in the internal structure of both kidneys.*

Case II.—A young man aged 19, (18th Nov. 1812,) had urgent vomiting; appearance of extreme exhaustion; pulse 84 and weak; some pain across the back; no other complaint of pain; abdomen soft and rather collapsed; no urine for three days; and bladder found empty by the catheter. Complaints began on the 15th with vomiting, frequent and copious diarrhœa and pain over the abdomen. The diarrhœa was removed by opium; the vomiting had continued, with his pulse from 80 to 90. Bowels freely moved by injection on the 17th; was treated by cordials; warm bath; opiates; diuretics; blistering, &c. his state of exhaustion admitting of no active remedies.

* Trans. of the Coll. of Physicians of London, Vol. IV. p. 226.

19th. Pulse 86 and small; skin cold; constant vomiting; little pain; no urine; much hardened feces brought off by injection.

20th. Vomiting abated; less exhaustion; pulse 90; no urine; much oppression, with a tendency to coma.

21st. Pulse 72; appearance of exhaustion quite removed, but coma increasing; bowels open; urine brought off by the catheter at different times through the day, to the amount of about the natural quantity.

22d. Pulse 84, of good strength; coma much increased; lbiss. of urine by the catheter; died in the night after slight convulsion.

Dissection.—Slight effusion in the cranium; and increased vascularity of the brain; a portion of the ileum 6 or 8 inches in extent, at its lower extremity, was gangrenous. Both kidneys were of a brighter colour than usual, showing some marks of inflammation. On the surface of both there were several dark spots; and in the substance of the left there was a small quantity of purulent matter; other viscera healthy.

Case III.—A lady, aged about 60, in April 1820, was affected with pain in the left side about the margin of the ribs, which was deep-seated, and was much increased by a full inspiration; pulse frequent; other functions little impaired. Was treated by an eminent practitioner with repeated bleeding, blistering, &c.; and with various remissions and aggravations, the complaint went on for five or six days, without showing any symptom calculated to excite alarm. On the 2d day, the pain and fever were much abated. On the 3d and 4th days, she had frequent bilious vomiting. On the 5th day, the pain returned, so as to require a repetition of the bleeding; the vomiting after this period occurring occasionally, though with less severity. From an early period of the disease the urine had been very scanty, and about the 5th day the secretion ceased. I saw her on the 7th day; she then complained of extreme oppression, and a feeling of exhaustion; the face was pale, and the eyes dull, but the pulse was about 84, and rather full; pain continued in the left side, affected by a full inspiration, but the breathing in other respects was natural; no cough; bowels open; no urine, and the bladder empty.

8th. No change; no urine; pulse natural; pain continued.

9th. Falling into coma; no urine.

10th. Coma increased; no urine; died at night. No dissection could be obtained.

A man, aged 35, mentioned by Dr Home, had cold shivering, cough, and scanty urine, afterwards dropsical symptoms, pain in the back, and right side, thirst, impaired appetite, and some vomiting. After three weeks, when he was received into the clinical ward, the vomiting and cough had ceased, and he was affected with headache, some anasarca, pain in the region of the kidneys, and suppression of urine; and the catheter being

used, no urine was discovered in the bladder. He became comatose, and died in 5 days, the anasarcous swellings having greatly diminished before his death;—the vomiting had returned, with diarrhœa. On dissection, the lower part of the right kidney was considerably inflamed, and there was inflammation of the pylorus, part of the duodenum, and a considerable part of the small intestine. There was effusion in the abdomen, the pleura, and the pericardium, and about ℥ij in the brain.*

These may be considered as examples of the true Ischuria Renalis. The following, though of a different nature, is nearly allied to it.

Case IV.—A gentleman, aged 70, in the night betwixt 21st and 22d February 1816, was seized with pain in his belly and sides, like colic pains, and found that he could pass no urine.

22d. Pains much abated; made no complaint of any uneasiness; pulse natural; no urine; bladder found empty.

23d. A good night; pulse natural; no urine.

24th. Was up and dressed, and walking about his house; pulse and appetite natural; complained of nothing except when closely questioned, some slight uneasiness in the back, scarcely amounting to pain; no urine; catheter repeatedly used and bladder found empty.

25th, 26th. Continued in the same state; was in his usual health, except that there was no urine.

27th. Began to show slight confusion of thought, and some hesitation of speech, and complained of giddiness; pulse rather frequent.

28th. Was confined to bed, but seemed relieved; pulse natural; no urine.

29th. Became comatose.

March 1st. Profound coma; bladder empty; died on the 2d. Repeated bleeding, purging, various diuretics, &c. had been employed. The blood showed a strong buffy coat.

Dissection.—The bladder contained no urine, but there were found in it three calculi, weighing each about ℥iiss. The pelvis of both kidneys contained a small quantity of urine, and numerous small calculi, mixed with a quantity of sand. The ureter of the right side was completely obstructed about 3 inches below the kidney, by a rough dark-coloured calculus, about $\frac{3}{4}$ of an inch in length, and 1 inch in circumference. In the left kidney, besides the numerous small calculi already mentioned, there was a smooth white calculus, about $1\frac{1}{2}$ inch long, and $1\frac{6}{10}$ in circumference, and distinguished into two portions by a deep furrow which went nearly round it. Of these portions, the larger was contained in the pelvis of the kidney,

* Home's Clinical Experiments, p. 288.

and the smaller in the commencement of the ureter, where it was firmly grasped, so as completely to obstruct the passage of the urine into the ureter. There was considerable effusion in the ventricles of the brain; other viscera sound.

This is properly to be considered as a case of ischuria ureterica, and there are several on record similar to it. In one described by Tulpius, there was no urine passed for eighteen days. The patient suffered severe pain in the loins, with fever and vomiting, and died comatose and convulsed. The left kidney was enlarged and livid, and contained many calculi, the largest of which had insinuated itself by its smaller extremity into the commencement of the ureter, so as completely to obstruct it. The right ureter also was obstructed by a calculus sticking in it at its commencement; "Quæ duo obstacula, (says Tulpius,) conspicue omnibus ostensa, vindicarunt artem ab ignominia." * A gentleman, mentioned by Dr Clarke, had pain in the region of the kidneys, and in the left side of the abdomen, with vomiting, fever, and suppression of urine, the bladder being found empty. He died comatose on the eighth day. Both kidneys contained sand and small stones, and both ureters were obstructed about the middle, by calculi the size of horse beans. † A more singular case is described by Mr Balderston, in which there was a suppression of urine, that continued almost total for fifteen days, the case then terminating by convulsion. The right kidney was of a monstrous size, and contained a large stone, many smaller ones, and some purulent matter. The left kidney was so small that it was found with difficulty, and neither in it, nor the ureter connected with it, was there any trace either of calculi or sand. ‡

In a girl aged 8, who died on the seventh day, Cnoffelius found the right kidney so encrusted with calcareous matter, that there seemed to be no passage into the pelvis of it; the left kidney was sound, but the ureter of that side was completely filled up and distended with red sandy matter. In this case it is probable that the left kidney only had been performing its office for some time, and that the fatal attack had arisen from the more recent obstruction of the left ureter.

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* Tulpii, Obs. Med. Lib. II. Caput 45.
† Edin. Med. Commentaries, Vol. VI. (1779,) p. 204.
‡ Edinburgh Medical Essays, Vol. II. p. 308.

TREATMENT.

The proper Ischuria renalis is in general to be considered as an inflammatory affection, and is to be treated according to the circumstances of the particular case by bloodletting, large blisters, warm bath, mild diuretics, especially digitalis given in pretty full doses at short intervals, and perhaps sudorifics. I am doubtful of the effect of turpentine, either by the mouth or by injection; probably in an acute case the tobacco injection might be useful. It would probably be calculated to relieve the inflammatory state of the parts, and might promote the descent of calculi, if the affection proceeded from the presence of them in the ureters. In Dr Laing's case, the remedies employed were bloodletting repeated three times, saline diuretics, warm bath, and occasional laxatives; and the case terminated favourably, after the secretion had been completely suspended for nine days.* M. Raymond has strongly recommended very large blisters across the region of the kidneys, and has described several cases in which a flow of urine soon followed the application of this remedy, after a variety of active practice had been employed in vain. † As a last resource, Lieutaud recommends emetics. "Nonnullos enim decumbentes, et cum morte colluctantes, hocce præsidio tempestivè adhibito ex orci faucibus ereptos vidi." ‡

CASE V.—In Autumn 1818, I saw a woman aged about 40, who complained of pain across the region of the kidneys; there was some fever, with general constitutional disturbance, and the secretion of urine had been suspended for three days. The complaint was ascribed to a large draught of cold water, taken when she was much heated, while at work as a reaper. She was bled to ℥xx. a blister was applied to the region of the kidneys, and she began to take 20 drops of tincture of digitalis every three hours. In the evening of the same day she passed some urine; next day it was abundant, and in a few days more she was well.

Ischuria Renalis has been chiefly attended to in adults, but I suspect it is not of unfrequent occurrence in infants. The facts on this subject are not at present such as to warrant any general conclusions, but merely to point it out as a most interesting subject of research. Of the affections of infants which terminate

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* Edinburgh Medical Journal, Vol. X. p. 409.
† Medical Obs. and Inq. Vol. V. (Appendix.)
‡ Lieutaud, Synopsis Praxæos-Medicæ, Tom. I. p. 269.

by effusion in the brain, and are included indiscriminately under the general name of hydrocephalus, there is reason to believe that there are important diversities. In the present state of our knowledge, I imagine it is generally admitted that the true idiopathic hydrocephalus is a primary disease of the brain, of an inflammatory nature, which must not be confounded with various other affections which terminate by effusion in the brain, though the primary symptoms were of a different nature. Of these there is probably a considerable variety, and in many of them the primary symptoms appear to be in the bowels. These occur chiefly in infants, and it is an interesting object of inquiry, whether some of them are not allied to the affection which has been the subject of this paper. Extensive observation is wanting, before we can venture on any conclusions, but there are facts which point out the inquiry as something more than conjecture. It may be considered as a fact, that Ischuria renalis is frequently followed by effusion in the brain, and it is a fact, that in many complaints of infants which terminate in the same manner, the primary symptoms were in the bowels. Now I believe it will also be found to be a fact, that in many diseases of infants, both simply febrile, and affections of the bowels, there is a remarkable diminution of the secretion of urine, amounting sometimes to a suspension of the secretion. The subject is worthy of careful investigation, and in a practical point of view, is one of considerable importance. A boy aged 9, whose case is related by Dr Willan,* a week after he had recovered from scarlatina, was seized with sickness and diarrhœa, (22d October 1786;) 23d and 24th, was much better, but on the 25th it was found that he passed no urine; his skin was cool; his pulse 90; and he complained of no pain. After the use of the warm bath, on the 26th he passed a very small quantity of urine; but on the 27th, the suspension of the secretion continued; and in the course of the day, he was seized with a kind of fit, in which he became very cold, and lay for some time in a state of coma. He recovered from this attack, however, and continued free from every urgent symptom, until midnight, when he complained that he could not see; then fell into a fit of coma, similar to the preceding, and soon after expired. No dissection was allowed in this case, but in a case considerably similar, which occurred to Dr Willan some time after, "The whole of the mesentery appeared to have been inflamed; the inflammation had extended thence to a considerable portion

* Medical Facts and Observations, Vol. III. p. 3.

of the ileum, in which there were found two gangrenous spots, each of them about the size of a sixpence. There was no urine in the bladder; the stomach, liver, and kidneys, were in a natural state; the gall-bladder was very turgid, and the mesenteric glands were much enlarged." This obscure affection had attracted his attention in several other instances, in which children had died unexpectedly, who had not been previously affected with any violent complaint. "The train of symptoms was nearly as follows: At first a slight feverish heat, restlessness, diarrhœa, and sometimes bilious vomiting, which continued for about a week. During that time the urine was made in small quantity, till at length the discharge of it entirely ceased, and soon afterwards the patients died unexpectedly, without complaining of pain or any particular uneasiness." Dr Willan had not an opportunity of examining the bodies in these cases, except in the one already mentioned, in which the mesentery appeared to have been inflamed. In the train of symptoms which he has described, there is a remarkable similarity to an affection of infants, which I have endeavoured to investigate in a former paper, and which I have considered as inflammation of the mucous membrane of the intestinal canal. In the cases of that affection which have occurred to me, the symptoms usually were, diarrhœa with some degree of fever, and frequently vomiting, and several of them were unexpectedly fatal by coma, while no symptoms had previously existed which indicated danger, or pointed out the affection as in any respect different from the common bowel complaints of the period of dentition. On dissection there was found reason to believe that the primary disease was in the mucous membrane of the intestine, in which there were portions in a state of inflammation, sensibly elevated above the level of the sound parts, and generally covered by minute vesicles or small ulcers. There was also remarked, in some of them, a considerable appearance of inflammation, or increased vascularity in the mesentery at the places corresponding to the inflamed portions of the mucous membrane. I know not whether that was the same disease that occurred to Dr Willan, but there certainly is a remarkable similarity. In some of the cases the urinary secretion was observed to be extremely deficient, or for a time suspended, but perhaps this symptom was not sufficiently attended to, for at the time when these cases occurred to me, I was not fully aware of the great importance of it, in the pathology of this affection.

The following case occurred to me lately. A child, aged 12 months, had enjoyed good health, except that he was liable at times to a loose state of his bowels; he had been weaned at 9

months, and had suffered no inconvenience from that change. On Thursday, 22d September 1820, he was seized with frequent diarrhœa and vomiting, and was observed to pass no urine; the stools thin and watery. The same symptoms continued on Friday and Saturday, and he was not observed to pass a drop of urine during these three days. He was not seen by any medical man until late in the evening of Saturday, when he was visited by my friend Dr Pitcairn; he found him in a state resembling the last stage of hydrocephalus, affording no room for practice; and he died soon after his visit. I examined the body along with Dr Pitcairn. The intestines were externally healthy, except some portions, which were of a dark colour; this was most remarkable about the lower part of the ileum; the mesentery was in many places unusually vascular, but not amounting to inflammation. There was extensive inflammation of the mucous membrane of the intestine in its first stage, at the lower end of the ilium; and a slighter degree in other places, especially in the colon. The bladder was collapsed and perfectly empty; the kidneys, liver, &c. were healthy. In the brain there was a little effusion, and a morbid vascularity in the medullary substance; innumerable red points appearing at every incision, as we observe in cases of acute hydrocephalus.

VI.

Case of Paraplegia. By Ebenezer Gairdner, M. D. Fellow of the Royal College of Physicians.

James Campbell, æt. 25, miner and shepherd, Craigluscar, near Dunfermline. Attended by his wife he waited on me, in the month of September 1820. They stated, that, in June last, he was attacked by a bull, by which he was caught in the back and tossed up several feet into the air. He was immediately rescued and taken up in a state of insensibility; he appeared also to be a good deal bruised. In this condition he lay for about two hours before medical aid could be obtained. When the surgeon arrived he was bled, and other remedies were applied. On recovering somewhat, it was discovered that the back was considerably injured, and that both of the lower extremities were very much paralysed. Though he had little or no vomiting, yet the functions of the stomach were somewhat affected; no apparent injury was sustained on the head. By the remedies

used he recovered something further, but little or no relief of the palsy was obtained.

The paraplegia is now so very considerable that he can only move by crutches, and he drags both of his legs; of these I observe, that the volume and athleticity of their muscles are not in proportion to the other parts of his body, yet, it is denied that there is any emaciation. He cannot stand erect, but in a posture bent much forward. On placing him horizontally on his face, and examining the spine, I find that three of the lower dorsal vertebræ appear as if shot outwards, below which there is a little hollow that admits the point of the finger, on inserting which into this hollow with a little pressure, great pain and a peculiar sensation are excited. Appetite is stated to be much impaired, and the digestion of what food he takes to be very indifferent. Bowels rather slow; urine free; speech quite entire. The countenance and the functions of the upper part of the body seem to be rather healthy, and indeed, the appearance seems to have been that of an athletic and good-looking man of about five feet seven inches high, of a dark complexion, yet of a plethoric constitution.

I commenced the treatment by free depletion, and the application of a blister to the part of the affected spine, which was allowed to run as an issue for a day or two,—and the use of friction as soon as possible. The stomach and bowels were kept easy by the use of magnesia, with rhubarb and the aloetic pill.

On the 20th September, the friction, thrice a day by the hair brush, with oil, was vigorously applied to the back, for the space of at least half an hour, each operation. He was ordered to get a hard straw pallias, and an woollen bolster, as hard packed as he could bear, which was placed across. On this bed he lay in the night time, as well as several hours during the day, taking care to have him placed and pinned down directly on his back, and the bolster duly under the affected vertebræ; and to take occasionally gentle exercise, by walking in the room in a posture as erect as possible, but to avoid the exciting any pain or much fatigue.

From the beginning, I had expressed great doubt that any remedies would now be of such avail, as to remove entirely the disease; but in making trial, I enjoined upon the patient and his wife, (an intelligent and very active woman,) the necessity of rigorously attending to the remedies which I was inclined to try, trusting, that his naturally excellent and youthful constitution might give some hope of at least a probable alleviation, which otherwise could by no means be entertained; and from the great anxiety which was constantly evinced both by the pa-

tient and his wife, I have every reason to believe, that the instructions were duly regarded.

September 23d. The operations of the friction were not disliked; a prickly and tingling sensation was begun to be felt in the lumbar region, extending down the thighs and legs, and to continue for some little time after the operations; little improvement, however, was as yet observed; bowels continued to be rather slow; appetite still indifferent.

On the 29th, the gait seemed to be rather improved; the prickly sensations continued to be felt after the frictions; bowels kept easy by the medicine; appetite rather improved. In addition to the hair-brush friction, a brush made of feathers was ordered, and the spine to be tickled with it.

Oct. 1.—Little improvement was observed; indeed, he appeared not to be just so well as at last visit; but the vertebræ seemed somewhat better.

℞ Aq. ammoniæ ʒi.
Ol. olivæ ʒij. ft. liniment, dorso applicandum. Cont. alia.

3d.—He stands the frictions with the brush and liniment pretty well; the prickly sensation is felt from the back downwards, and at the soles of the feet.

On the 14th, he felt himself so much better, that, with the aid only of a stick, and by taking one or two occasional rests by the way, he walked about two miles and a half, without much fatigue, to pay me a visit; but the paraplegia was still very visible, though the appearance of the spine was considerably improved. He reported the bowels to be pretty regular, with only the occasional use of medicine; appetite improved. The blister and issue dressings for a day or two were ordered to be repeated.

On the 30th, there appeared to be a marked general improvement, and he was in high spirits.

On the 7th of November, he again walked to town to see me. He appeared to be quite cool, and not at all fatigued; his gait nearly quite erect, and firm. Expressing great satisfaction, he declared, that he found himself so well, that he thought he might be able to attend to some easy work. On examining the spine, I found that the curve and small hollow were much reduced in appearance, and began to assume the natural form, but little pain was felt by pressure on the place where the small hollow was before so distinct; bowels pretty regular; appetite good. The friction with the brush and liniment, and the use of the straw pallias and bolster, were ordered to be continued; also the aloetic pills, and the powder of magnesia, with rhubarb, as

may be required. I recommended some little delay before he applied to any work.

20th.—He has been for some days herding cattle; he feels no inconvenience, only some little weakness of the right leg is felt. Continue the treatment as before directed.

December 20th.—He has continued to the tending of cattle for several hours daily, though the weather has been occasionally very wet, and he has felt no inconvenience. On the contrary, the weakness of right leg is nearly gone; the spine is almost quite natural; the gait erect and firm; bowels easy, without medicine; appetite excellent.

Feb. 5, 1821.—Notwithstanding the severity of the weather, to which he has been daily exposed since last report, he has found himself improve considerably in strength, and indeed he appears in most excellent health. The spine seems to be quite natural, except that the vertebra, immediately above where the hollow was, is left enlarged; but he feels not the least inconvenience, even though I press with considerable force either on it or on any other part of the spinal column.

That part of the practice which was directed to remove the inflammation and pressure, and to restore the due tone of the injured parts, is sufficiently obvious; but I am inclined to apprehend, that the success which has attended the case is in no small degree to be attributed to the means which were employed to restore the natural seats of the vertebræ; and it is only doing justice to the late Mr Baynton of Bristol to say, that it was from his practice, in some juvenile cases of rachitis, that I took the hint of recommending the horizontal, and relieving the vertical, position of the spine, only modifying the bed by the addition of the bolster, to suit better the object which I had in view in the present case.

This case, I may add, goes farther to shew practitioners the advantage of not rashly despairing in those often untoward instances of weakness and affections of the spine, which so often present themselves before us, thus leaving many persons to spend a miserable life. It also shews the necessity of our prevailing upon the parents and friends of such patients to exert themselves in aiding us by those daily and constant attentions without which we never can expect to succeed, and perhaps for the want of this due co-operation, our practice in those cases is so often inefficient and unfortunate, and not unfrequently mischievous.

Dunfermline, Feb. 1821.

VII.

Case of Poisoning, by Laudanum, successfully treated by Venesection. By Mr William Richardson, Surgeon.

In the month of November 1818, Mrs G. æt. 22, a very delicate woman, and within seven weeks after her confinement, having contracted a severe cold, was advised by some old woman to make use of a combination of vinegar, laudanum, and treacle, which her adviser told her would prove an infallible cure. She, not at all aware either of the dose or of the effects of the laudanum, procured from the druggist a quantity, which, from what I could learn, must have been about three drachms; and, having mixed it up according to the old woman's recipe, took almost the whole of it in the course of a night. Next morning, about nine o'clock, her husband came to me in great alarm, and informed me of what she had done, and that, upon his waking in the morning, he had found her in a deep sleep, from which every effort that he could devise to rouse her, had been ineffectual.

I visited her immediately, and found her, as he had described, sleeping profoundly; her breathing regular, but deeper and slower than natural; her pulse full, regular, and slow: in the hurry of the moment I did not count it. I shook her pretty smartly, pinched her, and bawled loudly into her ear, but could not perceive the slightest marks of sensation or consciousness. I caused her to be raised up, and her mouth to be opened, while I poured into it half a drachm of sulphate of zinc, dissolved in water, which I had taken with me. This was not swallowed till it had remained in her mouth a considerable time, and then appeared to be carried into the stomach by an effort of deglutition wholly involuntary. Vomiting did not occur for a considerable time, and not until I had irritated the internal fauces with my finger, when there was a considerable quantity of dark matter rejected, and she was somewhat roused, so as to be able to answer questions, though still very drowsy, and desirous to be left alone. The vomiting was encouraged by making her drink hot water. She complained at this time of slight headach and giddiness. Seeing that she was awake, and thinking that all would go on well, I left her; directing that some coffee should be made, as strong as possible, of which she should take a cupful very frequently; that she should be carefully watched,

and kept constantly moving about, and not, on any account, be allowed to lie down, or go to sleep.

About two o'clock, her husband called on me, and informed me, that, being obliged to go out, he had left his wife under the care of a nurse, and, when he came back, that he had found her in a state of insensibility, which the nurse told him had come on gradually. I found her comatose, her breathing slightly stertorous; and seeing that she was not at all roused by the exhibition of a dose of aromatic spirit of ammonia which I gave her, I poured some of the same fluid into the nostril, which produced sneezing, and a temporary amendment; so that, on being interrogated, she indicated that she felt great heaviness in her head and vertigo; but, when we attempted to make her walk, her limbs failed under her. The coma now appeared every minute to increase, the breathing to become more and more stertorous; she was supported in a chair, her arms hanging like those of a dead person; when spoken to, no answer was returned; and, when pinched, she did not appear to have any sensation. I tied up her arm, and took away fourteen ounces of blood, by which she was immediately relieved; so much so, that, before the stream of blood was stopped, she opened her eyes, and answered, that she felt her head very much relieved from the heaviness and giddiness. After this, she continued gradually to improve. I directed an active purgative; and, next day, she had no complaint, except slight headach, and the cough, which still remained, notwithstanding the hazardous remedy she had made use of to get rid of it.

The following case, which was pointed out to me by my friend, Dr Milligan, is, as far as I know, the only one upon record, in which blood-letting has hitherto been employed as an antidote for an overdose of laudanum.

"An unfortunate female, when in a carriage with a friend, swallowed an ounce of laudanum. The action was observed, and she was conveyed by her terrified companion, in about half an hour afterwards, to the door of the practitioner under whom the author then studied. She was taken out in a state nearly insensible. Ten grains of vitriolated zinc were instantly administered, without effect; ten more were added in a few minutes afterwards; and other means were, in vain, resorted to, to excite the action of vomiting. As the comatose symptoms continued evidently to increase, a vein was opened, and nearly twenty ounces of blood taken away. Sense and motion immediately began to return; the emetic action of the zinc was produced; and the patient was left, in a short time afterwards, with no other re-

remaining symptom of the danger she had escaped than a little languor."*

In the case narrated by Dr Stock, the remedies were applied in a very short time after the opium had been taken; the symptoms were not so fully marked, and yielded at once. In Mrs G.'s case, the opium had been retained so long in the stomach, that its full effects upon the system were produced; and even when that viscus was completely emptied, although there was a temporary amendment, yet, after a short time, the symptoms returned with increased violence. It may appear singular, that so small a quantity as three drachms of laudanum, and that taken in divided portions, should have produced such powerful effects, when we know that a man has recovered after swallowing six ounces;† but, besides that I could not obtain with precision the exact quantity of the drug that had been procured, it is well known, that in some individuals, and under certain circumstances, a very small quantity of opium will act with much more energy than a much larger dose would do in ordinary cases; and this female, by reason of her natural temperament, which was exceedingly delicate, and of her situation, far advanced in pregnancy, may be supposed to have been more than usually susceptible of its deleterious influence. It would appear, also, from the experiments of M. Orfila,‡ that vinegar, although it may be useful as an antidote after the opium is expelled from the stomach, if given along with it, or before it has been rejected by vomiting, actually increases its poisonous qualities. This may have happened in the present instance.

Before this case occurred to me, I had not seen the one recorded by Dr Stock, nor had I read the work of M. Orfila, who, from his experience of its effects upon dogs, has recommended blood-letting. The practice was suggested to me by the evident similarity of the symptoms to those of apoplexy, and by the recollection of a hint which I had heard thrown out by Dr Hamilton junior, the distinguished Professor of Midwifery in the University of Edinburgh, who, in pointing out the effects of opiates in supporting the powers of life under the exhaustion brought on by profuse uterine hæmorrhage, and the immense doses that are given without producing the narcotic effects of opium, was led to deduce the inference, (which all the experience we have had upon the subject proves to be correct,) that, *vice versa*, blood-let-

* Stock on the Effects of Cold, p. 128. Note.
† Vide Marcet in Medico-Chirurg. Transactions.
‡ On Poisons.

ting would modify the effects arising from an immoderate dose of opium.

From the result of these two cases, and from the experiments detailed by M. Orfila, we are, I think, warranted in assigning to blood-letting a very high rank amongst the remedies to be employed in cases where opium has been taken in immoderate quantity; and I should think it would be equally useful where poisoning was the consequence of the ingestion of too large a quantity of any of the other substances belonging to the class of narcotics. In every case, vomiting should be the first thing resorted to, with purgative clysters, if there is reason to think that the poisonous substance has made its way into the intestines; but, if the symptoms do not yield upon the evacuation of the stomach, or if the emetic does not operate speedily, then, I think, blood-letting should be immediately resorted to. The coma and the convulsions are evident proofs of oppression of the brain, and for this state we can conceive no remedy more appropriate than blood-letting. Further experience must determine the value of the practice, and point out precise rules for its application.

Sloane Street, 15*th May* 1820.

VIII.

Case of Tic Douloureux Cured by Cinchona. By D. R. Robinson, Member of the Royal College of Surgeons in London.

Miss D. aged 33 years, of a strong constitution, generally healthy, her family subject to spasmodic affections. In the month of June 1819, was attacked with a slight pain in the left lower jaw; was not aware from what cause it proceeded; attributed it to toothach and rheumatism. To the last named complaint she was formerly subject, and had rheumatic fever several years ago. The attacks of pain would come on suddenly without observing any set period; the spasm has come on in the street, when visiting friends, but more particularly after eating. The paroxysms, however, assumed a more formidable appearance about the beginning of January 1820, when Miss D. removed from P——e to Mevagissey, a distance of fifty miles. She had hitherto considered the complaint so trifling in its appearance, as to need no medical assistance.

When the paroxysms, however, became more violent in degree, duration, and frequency, she thought more seriously of the malady, but still at times attributed it to odontalgia, and fixed, for extraction, on a sound tooth, from whence the pain originated. On the 10th of January the posterior sinistral eye-tooth was removed; on examination it was found perfectly healthy: the gum remained sore and inflamed for some time after. The following day, about 10 o'clock in the evening, she had a most agonizing paroxysm, which commenced in the anterior sinistral eye-tooth, the tooth situated anterior to the one which had been extracted. The pain darted from thence to the angle of the jaw, the ear, the mastoid process, the parotid gland, the cheek-bone, the temple, and the central point of the left parietal bone. The pain seemed chiefly confined to the left side, and the disease appeared principally to exist in the fifth pair of nerves, particularly the superior and inferior maxillary branches, the portio dura of the seventh pair, the nerves of the parotid gland, all of which communicate and form a net-work on the face, called the pes anserina. During the paroxysm feels a creeping cutting pain in the gums, and a throbbing sensation in the temples, and just under the parietal bone. The patient compares the pain to a dart shooting through the parts affected—to cutting the flesh from the bone—to screwing the head with much violence—or to entire decapitation. When the paroxysm is present, the mouth fills with water, the discharge from the left nostril is increased, with an effusion of tears from the left eye. Face exceedingly flushed; pulse 90 to 112. At the period when least expected the attack makes its appearance. A short time previous to the spasms coming on, she experiences a sore, creeping, gnawing, cutting pain in her gums, with coldness in her hands and feet. The paroxysms generally commence after eating, when speaking, or even when the body and mind are unemployed. The distressing sufferings of the patient sometimes continue ten, fifteen, twenty, forty, or sixty minutes; seldom less than ten, or more than ninety minutes.

When the exacerbation ceases, the pain in the head gradually subsides, then the face and ear become easy, and the tooth after some time becomes free from spasm. January 11th.—To ameliorate the poignant sufferings of the patient three leeches were applied to the gums, and a blister put behind each ear, which discharged copiously for several days. In the evening had a paroxysm, which lasted an hour. The left side of the face fomented twice a day with chamomile flowers, and poppy heads boiled in water. The cheek and gums rubbed three times a day with the following liniment:

℞ Tinct. opii, Spts. æther. vitriol. ā ℥i. M. ft. liniment.

15th.—Had another attack, which continued three quarters of an hour. Three leeches applied to the gums. ℞ Emp. oxycroc. Pulv. opii p. æq. spread on leather. One plaster applied to the cheek, and another to the left temple. The bowels kept regularly open by cathartics.

℞ Tinct cinchon. comp. Tinct. castor. ā ℥i. M. ft. gutt. Capt. coch. ij. parv. ter in die.

19th.—Had a return of extreme pain, which lasted one hour and a quarter.

Tinct. Foment. et Emp. contin.

28th, at one P. M.—Had a severe paroxysm, which did not subside till half past two o'clock. Face fomented; ten leeches applied to the left cheek, which brought off a large quantity of blood. Seven, P. M.—The pain returned with much violence for one hour. Lint dipped in æther and laudanum applied to the gum; opium in substance chewed to alleviate her sufferings, but without success. Indeed, nothing whatever that was tried afforded immediate relief, or in any way shortened the duration of the paroxysms. On the 31st, had a slight spasm for half an hour. On the 4th of February, at three P. M., she had a most severe and excruciating paroxysm for seventy minutes. At ten minutes past four o'clock, when the parts affected were easy, she commenced taking the following medicines:

℞ Pulv. cinchon. ℥ij. divid. in chart. xxiv. Capiat unam omni hora in lact. vaccin. mist.

℞ Tinct. cardam. comp. ℥ss. Tinct. valer. ammon. ʒi. Aq. ℥iv. M. divid. in haust. iv. una tertia quaque hora sumenda.

The above powders and draughts were not administered during the paroxysms, nor was any external application used while taking them.

Tuesday 8th, nine A. M.—After breakfast, a violent paroxysm came on, and continued one hour and three quarters. 9th, two P. M.—Had another paroxysm, which lasted forty-five minutes; the spasms returned at 11 P. M. for one hour. 12th, seven P. M.—After tea, a violent paroxysm came on, and continued one hour.

The patient persisted in the bark plan, with the greatest punctuality, every hour, for nine successive days and nights; after which, she has not had the slightest return of the paroxysms. The bark produced fever; furred tongue; unpleasant taste in the mouth, sometimes sweet, salt, and acid; constipation of the bowels; loss of appetite; increased action of the heart and arteries. As two carious teeth remained in her head, it was thought advisable to have them extracted. On the 14th,

the sinistral dens sapientiæ of the lower jaw was removed; and, on the 17th, extracted the decayed root of the posterior dextral dens cuspidatus of the upper jaw. In summing up the remedies employed, I cannot but give credit to the cinchona in achieving the cure. It must be allowed, from ocular demonstration, that it increased the frequency of the spasms by increasing the irritability of the system: but, after its administration, it left the nervous system in so strengthened a state, as to eradicate this painful affection from the nerves of the face. Perhaps some persons, not acquainted with tic douloureux, might pronounce this complaint rheumatism, or odontalgia. It, however, distinguishes itself from the former disease by the extreme violence of the pain, and the shortness of its duration; whereas chronic rheumatism is a dull, aching pain, long continued, and increased at night. The acute species is accompanied with much heat, swelling, and frequent discoloration, with continual pain. The toothach consists of a throbbing, aching pain, in one or more decayed teeth, and rarely or never affects the nerves and their ramifications which have been mentioned, and which are generally the seat of tic douloureux. Two ladies in London, and one in France, have been completely cured of this painful malady by persevering in the bark plan. Two scruples of pulv. cinchon., taken every hour, for the first twenty-four hours; on the second day, every two hours; on the third day, every three hours, and so on—have been beneficial in curing patients, where the disease has not manifested so much severity as the case recorded.

Mevagissey, Cornwall, May 10, 1820.

IX.

Case of Imperforate Anus. By John Wayte, Surgeon, Calne.

Francis L——, born March the 7th 1814, not having passed any thing *per anum* during the whole of that and the following day, became very restless and uneasy, and was affected with constant vomiting. His nurse attempted to administer an enema, but in vain. On being sent for and acquainted with these circumstances, I deemed it proper to examine the rectum. All the external parts were well formed, and no one could, from their appearance alone, have suspected malformation; but, on

introducing my finger, a complete obstruction was encountered about an inch from the verge, leading one at the moment to apprehend an imperforate rectum; yet, from a membranous kind of feel communicated to my finger on the child's straining, there was reason to trust that the case was not altogether so hopeless. Convinced that a perforation afforded the only possible means of relieving my little patient, and, that without it, death must inevitably ensue, I determined on operating to that effect. The little finger of my left hand being introduced, and pressed with moderate force against the obstruction, a pointed probe was cautiously guided along it, and pressed onwards through the supposed membrane. In its passage it communicated a sensation of thickness, and, on withdrawing it, some flatus escaped with a hissing noice, affording me a clue in what manner to proceed. With a view to dilate this aperture I followed its course with an hydrocele trocar, and afterwards with a bougie of rather larger dimensions; on withdrawing which I was much pleased to witness the appearance of meconium, mixed with feces, which continued to come away frequently, but in small portions, until the 14th, when the quantity was considerably diminished. On the 15th, the opening having closed, I repeated the puncture, and, by frequently introducing bougies, the child proceeded tolerably well until the 23d, when the passage was again much contracted, and the abdomen proportionably distended.

Had the obstructing cause been merely membranous, this disposition to contract would not, in all probability, have been great, and certainly, from the sensation given me in passing a bougie, I had reason to consider it carneous.

On the 27th I enlarged the aperture with a full sized trocar, used in the operation of paracentesis, on which occasion the child lost rather much blood than before, and was thereby somewhat weakened. No stools, however, were procured until the following morning, from which time until April the 12th they continued to be discharged plentifully without the necessity of introducing any instrument whatever. I must here remark, that this plan of allowing so many days to intervene, without the passage of bougies proportionate to the opening, was very contrary to my wishes, but, as some pain was unavoidably excited by them, the mother, seeing the motions so copious, would not allow of their repetition, although I urged a regular perseverance in this practice as alone likely to ensure success. The abdomen was now reduced to its natural size and softness, which had not previously been the case, as the food taken had exceeded the egesta. From the 12th the feces again declined in quantity, the passage becoming at length so obstructed as only to al-

low the escape of liquid drainings, and, as the child continued at intervals to suck very heartily without the least vomiting, his abdomen, on the 18th, was again tumid and tense.

I must here take occasion to remark, that, although from the time of his birth, only thirty-six hours elapsed before motions were procured, yet, during this interval, every thing was rejected. Afterwards, however, although nearly a week sometimes passed without a dejection, still he was never again sick. Whether the vomiting, during the former period, was excited by any peculiar acrimony of the meconium, I will not take upon me to determine; but it certainly has very much the appearance of it.

The parents were by this time convinced of the necessity of the regular and daily introduction of some instrument to preserve the passage open, and consented to the employment of any means which might be considered proper. I expected that a repetition of the puncture would have been indispensable; but, resolving to give a previous trial to blunt instruments, I commenced by passing a very small bougie twice a day, and, having succeeded in procuring stools, gradually increased the bulk of my instrument until May the 13th, when the opening would allow of a middle-sized rectum bougie. The boy now rapidly improved, and grew strong, and, although a daily continuance of the same means were required, yet there seemed a fair prospect of a complete recovery at last. These hopes were, however, soon after blasted by the discovery that a slight groove was made upon the bougie in passing it, which gradually increased so as at length to transmit a sensation of grating to my fingers. Slight febrile paroxysms of the hectic type became evident, and, from the indentation upon the bougies becoming deeper, and assuming a spiral form when rotated, there seemed little doubt of its being occasioned by a portion of the os coccygis in a train for separation, and these features totally changed the face of our prognosis, as the result too clearly illustrated. The hectic fever increased, diarrhœa to a considerable extent supervened, and the child died from the effects of long continued local irritation, having lived upwards of six months. Permission for opening the body could not be obtained.

X.

Contributions to Pathological Chemistry. By Thomas Stewart Traill, Physician, Liverpool.

Oil Detected in the Serum of Blood Drawn from a Person labouring under Internal Inflammation.

The individual whose blood became the subject of the following experiments was a middle aged man, of a rather spare habit, attacked with a severe pain in the region of the kidneys, and other marks of nephritis. He was attended by Mr Farr, a surgeon practising in Liverpool, who remarked the singular appearance of the serum of his blood, when separated from the crassamentum, and sent it to me for examination.

It has the following characters:—

Colour, a perfect Isabella or cream yellow. It is opaque, and rather more viscid than serum in its ordinary state. Its specific gravity, at temperature 44°½ F. = 1.0266, which is equivalent to about 1.0256, at temperature 60°. When left at perfect rest for several days it neither deposits any sediment nor becomes less opaque, nor undergoes any change of colour. Indeed, a portion of it, kept for above four weeks, has not yet lost its cream colour, though the smell indicates that decomposition has commenced.

When gently heated it wholly coagulates into a firm cream-coloured mass. The heat was continued for a long time without rendering the coagulum brittle. It was therefore cut into small pieces, and exposed between folds of writing paper, to a temperature a little above that of boiling water. The paper was quickly stained with greasy marks, the permanence of which indicates the presence of fixed *oil*. The surface of the fragments had also a greasy look, even after they had become brittle: and, on examining the capsule in which the serum had been evaporated, its bottom was evidently oily, but on cooling became opaque from the consolidation of a film of this greasy matter, which, however, was readily melted by a gentle increase of temperature. Shreds of the stained paper burnt much more brilliantly than pieces of the same sheet when unsullied. From these appearances I had no doubt of the existence in this serum of an oil, which is concrete at the usual temperature of the air, but, from the unusual occurrence of such a circumstance, it became desirable to have other proofs of its nature, especially of

its inflammability. The small quantity of the serum, in my possession, rendered several tests of oil impracticable; but amianthus appeared a substance well suited to shew the inflammability of even minute quantities of oily matter. A few fine fibres of this mineral were therefore selected. After being heated to redness, to guard against the presence of inflammable matter, they were applied to the bottom of the glass capsule to absorb the fluid oil, and on the application of an ignited body, they now gave out a clear and brilliant flame of short duration. This experiment I was enabled to repeat several times in the presence of several medical and philosophical friends, who were satisfied of the oily nature of the substance in question. The quantity of this oleaginous matter present in the whole mass of blood seems too considerable to have its origin in any other source than the absorption of animal fat by some diseased action of the vessels in this individual. We can scarcely suppose it derived from any article of food; for did oil in this manner find its way into the circulating fluids, it must be a frequent occurrence, and its presence in the blood must have been long ago detected by the refinements of chemical analysis. The same argument applies to the supposition, that it arose from the escape of oily matter from the cellular texture during venesection; and the quantity is far too considerable to be attributed to such a source, especially in a person of a spare habit.

The saline contents of this serum afford no result different from what usually occurs, except that, judging from the taste, it probably contained less muriate of soda than what is usually found in human serum. The small quantity of the fluid originally sent to me, rendered it impossible to ascertain the proportions of each salt which it contained.

The quantity of solid matter in it was found by evaporating to dryness, in a temperature of 212°, 135 grains of the serum. The oily matter was partially removed by laying the coagulated albumen on paper; and the solid residue then weighed 20.5 grains, which is equivalent to about 15.18 per cent. Our best experiments on serum of blood, as those of Berzelius and Marcet, give about one-tenth as the proportion of solid matter in this fluid; but, in the present instance, the solid contents bear the proportion of between one-sixth and one-seventh to the whole. The peculiar colour of the serum now described seems chiefly owing to a redundant portion of albumen, and perhaps also to the presence of oily matter. This latter appears to be combined with the serum, probably by the intervention of the free alkali existing in blood; for, after remaining one month at

perfect rest, there is not the slightest appearance of any separation of oil from a portion of the serum which I have this day examined.

It may be proper to add, that the patient whose blood gave rise to this communication soon recovered, and is now in perfect health.

Analysis of the Fluid drawn by Tapping, during Life, from the Heads of Hydrocephalic Infants.

The heads of infants labouring under hydrocephalus, with much enlargement and separation of the bones of the cranium, have been repeatedly tapped, with evident advantage, by some of our Liverpool surgeons. The case attended by Dr Rose and Dr Formby is already before the public. The operation was several times repeated, and I examined the fluid drawn off at two different times.

The first, in July 1817, was a very pale fluid, containing very little albumen, and had rather the characters of a mucus than of serum. This arose from the presence of lactates, with a minute proportion of albumen. Its specific gravity was only 1.0058; it did not coagulate when boiled, but by evaporation afforded a thin semitransparent pellicle, which, when thrown into water, became soft and yellowish like mucus. The hydrocephalic fluid was not precipitated by infusion of galls. It afforded a copious precipitate with nitric acid, and with superacetate of lead. With this last, the precipitate exceeded that which serum, drawn from a patient under ascites, affords to the same reagent. The saline contents of the hydrocephalic fluid were, a considerable quantity of muriate of soda; an alkali not fully saturated with acid, for the fluid rendered vegetable infusions green; phosphate of soda and some salt of lime,—for oxalic acid gave traces of the presence of the latter.

Some months after the first tapping, the child's head was again punctured, and eight ounces of fluid were abstracted. This, however, had all the characters of diluted serum. Its specific gravity was now slightly increased, being = 1.0080. When slowly evaporated, it formed a pellicle which was slightly opalescent, but when near the boiling heat, it yielded an opaque yellowish white coagulum, indicating the presence of a considerable quantity of albumen. This, when slowly dried at a temperature a little above 212°, became brittle and corneous in appearance. It was now cut in pieces and well washed with distilled water, to separate the saline matters, and again dried. The albumen then = 151.6 grains. The washings afforded by spontaneous evaporation many cubic crystals of muriate of soda. The whole was

digested in alcohol. There remained in the capsule little friable whitish lumps, which, when dry, adhered together by the intervention of a gummy-looking matter, which seemed to be some compound of lactic acid. The rest of this portion seemed to consist of earthy salts, and equalled 1.9 grain. The soluble salts, when dried at a temperature of 212° = 28 grains, chiefly consisting of muriate of soda, a little muriate of potash, with some small quantity of lactates and subcarbonate of an alkali.

In another case which was lately under the care of my friends Dr Freckleton and Mr Hay, the fluid abstracted entirely resembled the last described, and the child seemed greatly relieved by the operation, at two different tappings; but the prejudices of the parents have prevented this new practice being pursued farther.

In another case where it was had recourse to, one of the surgeons in attendance assured me that minute portions of whitish matter, exactly resembling brain, were discharged through the puncture, without any apparent injury to the infant.

The experience of our highly respectable surgeons in this place has completely established the safety of this bold operation; and although we are not yet enabled to offer it as an absolute cure for this very intractable disease, we are justified, from the apparent benefit which has in several cases followed the operation, to recommend it to the notice of our medical brethren.

Analysis of a Pulmonary Concretion.

I some years ago analysed a *pulmonary concretion*, brought up during a paroxysm of coughing. It was highly fœtid when discharged, from pus adhering to it. As usual in such cases, it consisted of phosphate of lime enveloped in a membranous substance, which retained the form of the concretion after the earthy matter was dissolved away.

Analysis of Nephritic Calculus.

On opening the body of a gentleman who had long suffered from a disease of the kidney, the right kidney was found to be enormously enlarged, and filled with pus, and sticking in its pelvis was a coralliform calculus, which when recent weighed 92.7 grains, and after eight days 82.7 grains. This calculus I examined, and found to consist almost entirely of oxalate of lime, a substance which, I believe, very rarely forms a renal calculus, though not unfrequent in the bladder.

Large Biliary Calculus.

In opening the body of a gentleman who had long laboured under disease of the liver and spleen, I found one of the largest calculi of inspissated bile which I remember to have seen. When recent, it weighed 201 grains. Besides this one, the gall-bladder contained three smaller, each about the size of a horse bean.

Intestinal Calculus of Carbonate of Magnesia.

Our profession is indebted to Mr Brande for pointing out the retention of magnesia in the bowels as the probable cause of disease in certain cases. The following instance occurred to me above two years ago:—A girl, about six or seven years of age, was affected with febrile symptoms, and pain in the abdomen. Laxatives were administered; and, along with feces, several tea-spoonfuls of a yellowish powder, in coarse hard grains, exactly resembling the *yellow sand* sold in the streets of Edinburgh, were voided. This had been once observed some months before, and was attributed to the child having swallowed sand along with some strawberries which she had eaten. I separated the animal matter by washing, and heated the powder in a platina crucible, when it became perfectly white, and was found to consist entirely of pure carbonate of magnesia. The child had not used any medicine containing magnesia for several months previously. The probability is, that this substance had long been lodged in the alimentary canal, and became granular from uniting with mucus, and being subjected to the continued peristaltic motion of the intestines. There can be little doubt, that substances, so gritty and sharp as these particles were, must have irritated the delicate coats of those organs. The obvious indication was, to employ castor oil and acidulous liquids; and under this treatment the disease speedily subsided.

Such instances, however, should not deter us from freely employing so valuable a medicine as magnesia; but, when it does not move the bowels, its inactivity is probably owing to deficiency of acid in the alimentary canal, and it might be judicious to supply this want by lemonade or other acidulous liquids.

Liverpool, 15th January 1821.

XI.

Case of Hydrocephalus Internus, in which the Operation of Puncture was performed. By GEORGE FRECKLETON, M. D.

J. BLAKE, æt. eight months, was admitted a patient of the Liverpool Dispensary on 17th September 1820. Has been a sickly child from his birth. At two months old was attacked with convulsions, attended by a disordered state of the bowels. About five months ago the mother first observed any enlargement of the head, which she stated to have been most remarkable at the vertex. The child had undergone no regular course of medical treatment. To prevent its constant crying the mother had made a practice of giving it occasionally a few drops of laudanum. The head, when I first saw it, was very much enlarged and tense, measuring, in circumference, 21½ inches, and across the vertex, from ear to ear, 14½ inches. The parietal bones appeared very large. The os frontis was of singular conformation, having, in a line with the sagittal suture, a pyramidal portion of bone apparently insulated, or only partially united to it. The bones of the head were much separated, and fluctuation could be distinctly felt in the head on the slightest motion of the child. The child was much emaciated, and incapable of noticing surrounding objects, the eye squinting to a remarkable degree. My friend Mr Hay having agreed with me in opinion that this was a favourable case for tapping, on September the 19th he performed the operation. Having made a puncture with a lancet at the anterior superior angle of the left parietal bone, near the os frontis, he introduced a small trocar, and allowed ℥viiiss of fluid to flow through the canula. The head was held, and a steady pressure kept up during the operation. The fluid was of a light straw-colour, partly tinged with red, in consequence of a slight admixture of blood. The child appeared uneasy during the operation. The head was bandaged so as to keep up an equable and firm pressure, and a tea-spoonful of Plenck's * mistura hydrargyri was directed to be given to the child three times a day.

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* The following is the composition of this mixture:
R Hydrargyri purif. ʒi.
Mellis optimi ℥i.
Aquæ puræ ℥viij. M.

It is worthy of remark, that a small portion of what w posed to be medullary matter preceded the flow of wate the orifice made by the trocar, and induced us to consider that the fluid was contained in the ventricles.

On the day following (Sept. 20th) the mother stated that the child had had some slight convulsions during the night, but had slept well without its usual dose of laudanum. About ℥vij. or ℥viij. of fluid had oozed through the opening, in addition to what had been taken away by the operation. The size of the head appears diminished. Bowels and pulse regular.

21st. The child appears much better; has slept well; bowels and pulse regular. The head has assumed a more natural shape, and the general appearance of the countenance bespeaks more intelligence. The mother describes the child as appearing more restless or uneasy than before the operation.

22d. Has slept well; seems more lively; opens his eyes with less appearance of squinting.

23d. Continues better; sensible of light; appears to suffer from teething. Dimensions of the head 20½ inches in circumference, 12¼ over the vertex.

25th. Dimensions as above. The medicine begins to affect the bowels, producing some degree of griping.

The operation was repeated, but, in consequence of the os frontis having advanced to the point of the last incision, the present puncture was made with a lancet near the anterior fontanelle. The quantity of fluid taken away was ℥iij. and ℥ij.

26th. No fluid discharged since the operation. The child is evidently much better. The scrotum appears anasarcous. The mother thinks that it has passed more urine lately, but of this she gave a very unsatisfactory account.

28th. Much better; seems to know the mother.

30th. The mother thinks that the head feels heavier than it did; urine undiminished; bowels not so open as they have been for some days. The child was asleep at my visit.

October 2d. The operation was again repeated, and about ℥vij. of a dark orange-coloured fluid was discharged. The medicine had been omitted for some days in consequence of its griping.

No material alteration took place between this date and the 9th October, when, the head appearing very tense, it was again punctured, and about ℥vij. of a less highly-coloured fluid were taken away. The child's general appearance was more favourable; evidently more lively and sensible of the pain occasioned by the lancet. Directed to repeat the mixture first prescribed.

10th. The child has cried almost incessantly since the operation. The head appears to be filling again.

From an idle suspicion instilled into the mind of the mother by an officious neighbour, that our treatment of the case was merely an experiment, we declined any further interference in the case, unless solicited by the mother to perform the operation.

On the 6th November she again applied to us; the child's head having become very considerably enlarged and tense; and we consented to repeat the operation, taking away ℥xvj. of a light straw-coloured fluid. The child was very uneasy after the operation, and was occasionally convulsed. The symptoms grew gradually more unfavourable, and early on the morning of the 9th the child died. Having obtained permission from the friends to examine the head, in the afternoon of the same day I went, accompanied by Mr Michael Dawson, who opened the head, and to whom I am indebted for the following accurate description of the appearances.

Dissection.—The integuments of the head being divided in the customary manner, the fontanelles were found of immense size, and the bones loose. Between the two portions of the frontal bone a central ensiform portion projected, and was united to them at their facial extremity. This had been formed from a point of ossification distinct from those of the frontal bone. When the pericranium and dura mater were divided round the circumference of the os frontis, and this bone was removed, the brain presented an unusual appearance of flaccidity, as if a large cavity were in its centre. A circular portion of each anterior lobe was now removed, which at once exposed three large round cavities, communicating freely with each other, and containing three pints of fluid. These were the two lateral, and the third ventricles, and the opening by which they communicated, must have been the *vulva* or *foramen commune anterius*, so much dilated that an egg might have passed through it from one ventricle to the other. The medullary parts of the brain had lost their natural figure, and seemed to be one confused mass, nor could the cornua of the lateral ventricles be distinguished from the general cavity. The septum lucidum could not be traced, nor, of course, the fifth ventricle. The brain was much expanded, and at its thickest part, under the parietal bones, did not exceed half an inch in thickness. The upper part, near the vertex, through which the trocar had passed, in tapping, was not a quarter of an inch in thickness. The convolutions of the brain were easily separated by the fingers. The lining membrane of the ventricles was somewhat thicker and

firmer than the healthy structure. The cerebellum was not enlarged like the cerebrum, but had been preserved in its natural size and situation by the firm tentorium. The cerebrum, not having the same support, had gradually yielded to the pressure from within, occasioned by the regular increase of the quantity of fluid, and had enlarged the capacity of the cranium, the bones at this part being less firmly connected. Very little fluid was contained in the fourth ventricle. Several spots were observed on the right side of the head; on the internal surface of the dura mater, which seemed to be extravasated blood, though in very small quantity; they were little more than discolorations, and scarcely deserved the name of coagula. The opening which had been made in the last operation was scarcely closed. The trocar had evidently passed into the lateral ventricle.

Liverpool, January 1821.

XII.

Hydrocephalus Chronicus treated by Operation. By JOHN LIZARS, Esq. F. R. S. Fellow of the Royal College of Surgeons, and Lecturer on Anatomy and Physiology, Edinburgh.

"Operations strike a deeper interest into the public mind than the daily cures we perform. The passion of acquiring character in operations is surely full of danger."—JOHN BELL.

EVER since my attendance on Monro Secundus' Lectures in 1805, I have reflected on the possibility of curing this dreadful malady by operation.—"Innumerable children are cut off, and whole families made desolate, by effusions into the cavities of the brain." Dr Monro, who, to the talents of a scientific physician, united those of a consulting surgeon, suggested in his Lectures a method for evacuating the fluid secreted in this disease. He has likewise mentioned a case in his work on the nervous system, where he recommends evacuating the water, provided it is effused between the dura mater and the surface of the brain, for he considered it, at that time, imprudent to pierce the substance of the brain. On opening the dura mater with a lancet no fluid flowed, therefore the operation was abandoned. Monro's observations on this operation are deduced from its history. He cites cases from Ferdinandus, Fabricius,

Panarolus, Wepfer, Muraltus, and Le Cat, and states, that, "within a few hours after the operation, every one of their patients died!" He, therefore, concludes, "When we consider the various dangers which must arise from the puncture of the substance of the brain—from the unequal bending pressure, and, perhaps, laceration of parts, which must happen when the brain collapses—from the admission of air—from the impossibility of adapting the cranium exactly to the brain for its support by the application of any bandage—no prudent surgeon will embark himself in such an attempt,—'ne quem servare non potuit, occidisse videatur.'" However plausible these observations are—however forcible they appear from their deduction from the history of the operation—however appalling from such imperious language, coming from so great authority—I have ever considered them as unstable and inconclusive. Even Dr Monro himself thought differently in 1805 to what he wrote in 1797, for he proposed evacuating the fluid within the ventricles from the occiput. To the ancient authors mentioned by Monro we may oppose Hippocrates, Paulus Aetius, Albucasis, and Arantius. * Fortunately, in the early career of my profession, I had equal authority to oppose to this reasoning of Monro. My late deeply-lamented preceptor, Mr John Bell, had taught me, "that the brain, in its own nature insensible, may be piecemeal destroyed without the faculties being ruined; that no local injury offends; that the faculties are obscured by such causes only as affect the whole; that the slightest general injury produces the worst symptoms, the most desperate local injuries none." Of the truth of these assertions we have only to consult his scientific work on Surgery, Vol. III. and the surgery of Wiseman. I had also the good fortune to witness several cases of injury of the brain—the one of the boy related by my partner, Mr Allan, in his first volume of Surgery, page 417, I had the daily task of dressing. The first assertion of Monro, therefore, is groundless; equally so are the others, as the case will prove.

Convinced of the probability of success in curing this disease, particularly when taking into consideration the analogy of the cure of spina bifida, and other dropsical affections, and finding that the authors quoted by Monro had either only heard of

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* "Et licet Arantius libro de tumor. præternatur. contendat nunquam esse deveniendum ad incisionem in hoc affectu, tamen ipse recedit gratis a magno Hipp. 2 de morbis, Paulo Aetio, Albucasi incisionem commendantibus."

the operation having been performed, or, when they were eye-witnesses, that the fluid was evacuated at once,* I proposed in 1815, to a medical gentleman, on whose opinion I place the highest value, as he is intimately acquainted with the history of his profession, and has witnessed extensive practice, to put the operation to the test on a child of a lapidary in town. He, however, dissuaded me from it, as being a rash attempt. "What should have been done for the hundreds of patients whom Morgagni and Valsalva suffered to die without help? Are we to offer no chance for life, when there is nothing but despair? Can the surgeon be said to destroy by his operation a patient who is declared past all hope? Can a patient suffer greater agony than convulsions, or be worse than dead?"

Last summer, I mentioned my ideas on the subject to my friend Dr William Campbell, Lecturer on Midwifery,† whose extensive practice in the diseases of children enables him to form a correct opinion of this complaint. He immediately concurred, and mentioned that there was a case related in the Medico-Chirurgical Transactions, by Dr Vose of Liverpool, which had been successful. Accordingly, in December last, he called me to visit a child afflicted with this disease, which he had been most judiciously treating, with a hope of being able to cure it without an operation. He had purged it briskly with calomel, and had

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* Wepfer, in the detail of one of his cases, says, that the mother of the child went away indignant at the advice which he gave her not to allow the head of her child to be touched; and that he heard of a surgeon who had been bold enough to operate, and the child died. In another case all the water was evacuated in twenty-four hours.

Fabricius, who is very imperious in his language, in one case thus expresses himself:—"After some months, chirurgum juvenem ingeniosum tamen satis, in consilium adhibuerunt." This young surgeon cut the right bregma, (I imagine one of the posterior,) and extracted at once about a pound of clear water. He then applied a pledget, and stopped the wound with a plaster. But the head was so turgid with water (for the disease had been allowed to go on for nine months) that it continually flowed copiously until the child's strength became so debilitated that in thirty-six hours it died. "Vides itaque vir clarissime, (ait) quam periculosa sit apertio cranii et evacuatio aquæ hydrocephalis, idque non immerito." He mentioned, that, in two cases, he found the water within the ventricles, and satirically adds, "Hæc autem absque mortis discrimine fieri non posse, etiam tyrones norunt,—imprudenter itaque agunt illi qui in hydrocephalis multa promittunt, sectionemque tentant." Such dictatorial language is contemptible; and of all melancholy contemplations, the practice of the ancients is the most afflicting.

Ferdinandus agrees with Hippocrates, "Si non sanat medicamentum, sanat ferrum, et quod non sanat ferrum sanat ignis."

† Le Cat, in his operation, allowed the canula to remain in the wound during the treatment.

applied repeatedly blisters to the nape of the neck and along the spine, and used mercurial frictions, but all to no purpose. The little one, a female child of the name of Elizabeth Davidson, was born about four months and eight days ago, of healthy parents, and apparently in sound health herself, as Dr Campbell testifies, who attended the mother during her confinement. But, in six weeks after, she was attacked with epileptic fits, which were shortly after followed by strabismus and an idiotical look, accompanied with torpidity of the bowels. The head soon evinced the deposition of water, and confirmed my friend, Dr Campbell, in his conjectures that hydrocephalus was forming.

7th December 1830.—The head, or, more correctly, the cranium, appears double the size of its natural magnitude; the superior sides of the parietal bones, where they form the sagittal suture, are so far removed from each other as to nearly admit two fingers; the frontal bone is equally removed from the parietal bones, and the halves of the frontal bone itself are also equally apart from each other; all contributing to constitute a very large bregma, or anterior fontanelle. The posterior fontanelles are proportionally enlarged by the separation of the temporal and occipital bones. The countenance has a disagreeable appearance: the unproportional forehead—the squinting and rolling of the eyes, with the largely dilated pupils—and the moving the enormous head from side to side—present an idiotical, melancholy scene.

10th.—To-day, in presence of Dr Duncan junior, Professor of the Theory of Medicine, Dr Campbell, and one of my pupils, Dr Moore, I pierced with a couching needle the anterior fontanelle in the angle, on the right side of the superior longitudinal sinus, carefully avoiding any cutaneous veins. From the conical figure of the needle, only about a tea-spoonful of fluid exuded. A cathartic was administered.

17th.—Nothing occurred from the puncture on the 10th. To-day, in presence of the same gentlemen, I pierced the same angle of the fontanelle with a delicate trocar and canula, and allowed to flow from four to five ounces of a clear, limpid fluid, stopping the flow in the middle for a few seconds. * The sides

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* The following is the analysis of this fluid by my friend, Dr Fyfe, Lecturer on Chemistry: The results of the experiments are,

A. On the addition of nitrate of silver, a copious white precipitate fell, which became black on exposure to light.

B. Nitrate of baryta also gave a white precipitate, insoluble in nitric acid.

C. Oxalate of ammonia rendered the fluid turbid, but ammonia itself did not occasion a precipitate.

of the cranium were supported during the flowing of the fluid by the hands of an assistant. The head was afterwards bandaged. By this manner of proceeding, we avoided the other dangers, excepting the admission of air, of which hereafter, mentioned by Dr Monro. The pupils instantly contracted, and the strabismus ceased. The child was given to the mother, with directions to keep the head in the horizontal posture, the same attitude in which it had been during the operation, viz. across the knees. She sucked greedily immediately after, and slept calmly in the evening. A cathartic was desired to be given, and the mother requested, in the event of seeing any flushing of the countenance, or restlessness, to immerse the child in the warm bath, up to the arms.

Tuesday the 19th.—Slept sounder, and passed a better night, between Sunday and Monday, than since she was born. Has passed an equally good one this last night. The head appears as large as on Sunday, and the squinting and dilated pupil have returned.

Thursday, 21st.—Yesterday, Dr Campbell was sent for, and he found a good deal of pyrexia present, with vomiting. The head appeared as distended as at first, and the reaccumulation seemed to be the cause of these symptoms, as the rest of the case will show. He ordered two leeches to each temple, a cathartic to be given, and the lower extremities to be immersed in warm water. To-day, we proposed repeating the operation, but the parents would not listen to it.

Monday, 25th.—The child having been easy for two days, and the parents having given their consent, I repeated the operation, and extracted four ounces of fluid. To-day, I introduced the trocar on the left side of the fontanelle; but, not having pushed it deep enough, the fluid did not flow so freely

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D. On the addition of lime-water, a white precipitate fell.

E. Muriate of mercury produced a copious precipitate.

F. To the filtered fluid of E. infusion of nut-galls was added, and no precipitate was occasioned.

G. Sub-acetate of lead (Goulard's extract) produced a copious precipitate.

H. On the application of heat, a coagulum was formed.

Of the above experiments,

A. indicates muriatic acid; B. sulphuric acid: C. lime, and the absence of magnesia; D. that lime is in union with phosphoric acid; E. and H. indicate albumen; F. the absence of gelatin; G. the presence of mucus.

The specific gravity of the fluid was, at 50 Fahrenheit, 1011.06; compared to water, 1000.

This fluid then appears, concludes Dr Fyfe, to be the same in its composition as the other watery fluids of the body, containing albumen, muriates, sulphates, and phosphates.

as formerly. In general, I introduced the instrument an inch from the integuments, but, to-day, only three-quarters. To prevent irritation being caused by the reaccumulation of the fluid, we appointed

Thursday, 28th.—Immediately after the last operation, she vomited. The bandages were allowed to remain until to-day. There did not appear any reaccumulation.—The operation, however, was repeated, and between five and six ounces were removed, which caused considerable collapse of the bones and integuments, and the child vomited. The bandage was applied as usual. From this day, a marked amendment took place: she sucked well, became more regular in her alvine evacuations, and slept sounder; could see distinctly, had a more natural physiognomy, and cried louder.

Sunday, 31st.—The operation was to-day again repeated, and about four ounces of fluid abstracted.

Friday, 5th January, 1821.—Yesterday morning the same epileptic fits occurred, as at the commencement of the disease, and apparently from the fluid irritating the brain by distention; the warm bathing of the lower extremities was prescribed by Dr Campbell, and a cathartic, after which no fit took place. The operation was repeated on the right side, and four ounces of fluid withdrawn; no vomiting followed this time.

Tuesday, 9th.—On Sunday last the 7th, she got the two mesial incisors of the lower jaw. Yesterday morning she had two epileptic fits of short continuance, and a third a little while before we called. The head was considerably less, and the anterior fontanelle greatly reduced—the anterior portion of the sagittal suture ossified, and where I had first punctured, was now bone, partly from ossification, and partly from the approximation of the frontal and parietal bones. The operation was done on the right side, and seven ounces of fluid evacuated. No vomiting followed.

Sunday, 14th.—On Thursday last, she had one or two slight epileptic fits. She was ordered half a grain of calomel night and morning, to induce absorption. To-day I pierced the fontanelle on the right side, and abstracted $7\frac{1}{2}$ ounces of fluid, of a much darker colour, and of a thicker consistence. In consequence of the bones being now firmly united, pressure could not be used, and *air rushed in at the canula.* This last fact answers the remaining assertion of Monro.

Friday, 19th.—On Tuesday the child had several slight fits. This day I took away seven ounces of fluid, of the same dark colour. When I punctured, the air escaped with a hissing noise. I applied compression over the fontanelle.

Tuesday, 23d.—Fits attacked her again on the second day after the last operation. To-day, I could procure only two ounces six drachms of fluid, and during its flowing the air rushed in. As the calomel had purged the child rather too severely, it was left off.

Sunday, 28th.—To-day I drew off ten ounces of fluid. On Tuesday evening following, she was attacked with the fits, which continued at intervals till Wednesday morning. Ordered the warm bath and a brisk purge.

Sunday, 4th February.—She had no fits since Thursday; to-day I pierced on the right side, and evacuated three ounces and a half of fluid.

Thursday, 8th.—To-day I pierced on the left side, in the very same direction and manner as on any former occasion, but no fluid flowed; I moved gently the canula on every side and passed a probe along, which met with a soft resistance, and on examining the point a little serum was evident. On withdrawing the canula, no cerebral matter or any thing appeared within. No bad symptom followed this punctured wound, or the following.

Sunday, 18th.—To-day, conceiving there was a reaccumulation of fluid from the fluctuating feel, I made another fruitless attempt; even Dr Duncan and Mr Allan were equally deceived; nothing seems so difficult to acquire as the *tactus eruditus*, and nothing is so essential to a surgeon. There was more resistance in this puncture; a particle of cerebral matter was found at the wound and a little within the canula. A little blood dropped from the canula, while in the wound.

Sunday, 25th.—After the result of the last operation, I considered the child as cured, but Dr Duncan and Mr Allan's prognostications were too true. For these two days past, the child has been very fretful, crying night and day. Fluctuation was more evident than at our last meeting, and I therefore punctured on the right side; the fluid instantly flowed; but no more than four ounces were removed. The child was immediately relieved, and continued better. On Wednesday 28th, I repeated the puncturing, and took away five ounces.

Saturday, 3d March.—To-day, I first punctured on the left side, but no fluid flowing, I secondly punctured on the right, and obtained three ounces of fluid. This leads to the inference, that the left lateral ventricle, or the left side of the general cavity, is obliterated, I should suppose, by adhesion.

Tuesday, 6th.—No bad consequences whatever followed the double puncture. To-day, I punctured on the right side, and removed four ounces of fluid.

Saturday, 10th.—I was sent for this morning, and I found that the child had had several fits early in the morning. The fontanelle is puffed up, indicating a reaccumulation of the fluid. The gum over the incisive teeth of the upper jaw is inflamed and swollen. This I accordingly scarified, and then punctured the fontanelle on the right, and removed four ounces of fluid.

Tuesday, 13th.—The child has had no fits since Saturday, and every thing promises success, but we appear to make little progress, in consequence of the irritation of the teething.

This case illustrates several important facts. It shows us that hydrocephalus chronicus may be treated by operation, when cautiously managed—that the brain, the centre or origin of the nervous system, is insensible, as Wiseman formerly proved—that it is at the commencement of the deposition of fluids in the brain that irritation is induced—that when a large quantity is extravasated, provided it be gradual, the brain accommodates itself to the fluid, and no urgent symptoms occur, but only those which are the result of general pressure, as gradual paralysis. The next point to be considered, and of which this case is a strong analogical illustration,—is the propriety of operating in a similar manner in the acute hydrocephalus. I merely at present hint at it, and shall certainly reflect seriously upon it. I have been years before bringing the operation in the chronic to the test of experiment; the same time may elapse before the other be decided.

The gentlemen who have witnessed this case, in one or more of its operations, I beg to mention, as I find many scrupulous to believe that any operation has been done. "Truth scarce ever yet carried it by vote, anywhere at its first appearance. New opinions are always suspected, and usually opposed, without any other reason, but because they are not already common. It is trial and examination must give them publicity." Dr Duncan, jun. Professor of the Theory of Medicine, Mr Allan, Lecturer on Surgery, and one of the Surgeons of the Royal Infirmary; Dr Campbell, Lecturer on Midwifery; Dr Milligan; Mr Runciman, N. S.; Mr Scott, N. S.; Dr Moore; Dr Murphy; Mr B. Bell; Mr Tweddale; Mr Carnie, Surgeon, and several young gentlemen, pupils, either of Dr Campbell or myself.

6, *George Street, 13th March* 1821.

XIII.

Case of Hydrorachitis treated by Puncture. By Professor Andrea Vacca. Communicated by Charles Locock, Esq.

Well knowing the high interest you take in any thing connected with the medical profession, I beg leave to offer to your notice the history of a case of hydrorachitis, which occurred last year at Pisa, in the clinical ward under Professor Andrea Vaccà. The early part of the case (previous to the beginning of October 1819) I had not an opportunity of seeing, but have related the particulars from a journal kept by one of the students, and partly from reports communicated by the Professor himself. From that time to the death of the patient I was a witness of every circumstance I have mentioned, and was also present at the dissection of the body.

Admitted, November 20th 1818, into the clinical ward, Pisa, Anna Barzelti, six years of age, of a sickly habit, affected with atrophy, and paralytic in the lower extremities. She has had from birth a tumour, situated between the last lumbar vertebra and the first portion of the os sacrum; the tumour was of an oval form, soft, circumscribed, containing a fluid, with no discoloration of the integuments over it, and about the size of a common orange. Upon compressing the tumour the fluid retired by mounting through the spinal canal, causing at first general uneasiness, and afterwards temporary apoplectic symptoms, as long as the pressure was continued; at the same time the alvine dejections and urine came away involuntarily. The right leg was also bent and drawn towards the thigh, and the corresponding foot was so situated, that the sole, instead of being turned downwards, was directed upwards, and the upper part of the foot projected outwards and downwards. On this account, as also from the paralysis and general weakness, the child was obliged to slide along the ground by the help of her arms and nates.

Upon the 28th of November, Signor Vaccà cautiously punctured the tumour by means of a cataract needle, and there escaped a fluid, rather dense, to the amount of four ounces, (Tuscan.) Straps of adhesive plaster were then applied over the tumour for the purpose of making constant pressure, which were retained there through the whole course of the treatment. * On the

* The following account of the fluid is by Signor Branchi, Professor of Che-

5th of December, the fluid having again collected, the puncture was repeated, and a liquid was drawn off analogous to the former in quantity and quality. The patient had a slight degree of fever afterwards, and passed a restless night, but by the morning was quite recovered. A nutritious diet was ordered. On the 12th the operation was again had recourse to, with the same result; the fluid being, however, more mixed with blood; a slight attack of fever followed, but quickly retired. On the 18th the fluid was again discharged. At this time the fever was rather more severe, and there was slight delirium in the course of the night, but the next day she was quite recovered. On the 24th the puncture was made for the fifth time, when the discharged fluid was more turbid and only two ounces in quantity; no inconvenience followed. Her diet latterly had been ordered to be of better and more nutritious food. On the 6th of January 1819, the tumour being again distended, the fluid was again evacuated, in quantity two ounces and a half, and of a bloody colour. On the 15th the operation was repeated with the same result. On the 22d three ounces of fluid were let off, of a bloodier appearance than before, although, on this occasion, the tumour had been punctured in the posterior part, where there were no traces of vessels ramifying. In place of the cataract needle, which had been now used eight times, a needle of the diameter of a line in the thickest part was employed, and the tumour was again punctured on the 12th of February, when the usual quantity of the same fluid was discharged, without the least inconvenience. On the 25th of February, and on the 13th, 19th, and 30th of March, and on the 16th of April, the operation was repeated with similar effects. It was rather about this time that the patient began to appear stronger and plumper, and the paralytic extremities began to be capable of motion. Encouraged by this success, the Professor endeavoured to straighten the distorted foot by means of a small instrument recommended by Scarpa,

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mistry in the University of Pisa:—"The fluid was of a slightly reddish-colour; upon standing it became limpid, and had a sensibly saline taste. It was not coagulated by the action of concentrated sulphuric acid, nor by that of alcohol, although the latter caused a slight precipitation of whitish flakes. The addition of nitrate of silver produced a copious white coagulation. The action on test-paper gave slight indications of the presence of an alkali. It became turbid from the addition of oxalate of ammonia. It was not coagulated by heat. Upon evaporating to dryness it left upon the sides of the vessel a minute layer of whitish matter; and, upon stopping the evaporation before dryness, small crystals, spontaneously formed in large quantities, of a saline taste, from which hydrochloric acid was evolved, upon adding a few drops of concentrated sulphuric acid."

n a short time she was able to walk freely. However, the was again collected, and upon the 19th of April was let ppearing rather thicker than before. The fluid was again ated on the 26th of April, on the 15th and 25th of May, 6th of June, and the 21st of August, and the 22d of Sep- er. By this time the child had become healthy in appear- cheerful, and strong; hopes of a complete cure were en- ned, although the constant reproduction of the fluid ren- it very uncertain. At this time I first saw the patient. ie 29th of November, at seven in the morning, the tumour again distended, the Professor made a puncture, and the was evacuated of the accustomed quality and quantity. The continued perfectly well till the evening of the 2d of De- er, when she was attacked with fever, but as she had a white ue, it was at first supposed to be caused by a foul state of owels. She was ordered four grains of calomel, and a and a half of lemonade for drink. The medicine pro- d no evacuation by the next morning, the 3d; and on their ining the tumour, it was found painful on being touched, and having an erysipelatous appearance. There was unusual bility along the tract of the spine, but no paralysis of the or or superior extremities, or any alteration in the intel- al faculties. Six grains of calomel and an enema were pre- d, which produced abundant fetid dejections, with a slight to the symptoms. Two leeches were also applied near the ur, but without benefit. An antiphlogistic treatment was ued till the morning of the 5th, when the tenderness of the ur and spine continuing unabated, and if any thing increas- our more leeches were applied. On the 7th, a blister was ed to the nape of the neck, but without relief. The abdo- was also fomented. On the 8th, the symptoms were evi- y worse, and the antiphlogistic treatment was steadily pur- On the 9th, she was much as the day before, lying quiet, ing a little, but answering questions collectedly, another r was applied to the neck. On the 10th, stupor, dilated s, and a complete depression of strength came on; a blister pplied to the spine, and cordials were exhibited. On the the comatose state was increased, and she died in the noon, *but without ever having had any appearance of con- ons.*

ie next morning, on inspecting the body, the appearances as follows:—

ie external integuments of the tumour were sound, but of a red colour. Upon exposing the brain and the whole h of the spinal canal, the enveloping membranes were

found to possess an healthy appearance, no redness or gorging with blood was visible. The membranes of the brain being removed, and the two hemispheres sliced away, so as to expose the centrum ovale, their substance was found perfectly healthy. Upon opening the left ventricle, it was found full of fluid and much enlarged, whilst the right contained only a small quantity; but as the ventricle itself was as dilated as that of the left side, it may be supposed that it had contained as much fluid as the other.* The fluid in the two lateral ventricles communicated with fluid contained in the third, from whence it passed into the fourth ventricle, from which it reached the spinal canal by an orifice not observed in the healthy state, and probably formed by the breaking through the adhesions of the pia mater and the choroid plexus, which close up the fourth ventricle at the lowest part, and, by that means, communicated with the fluid contained between the pia mater and the medulla spinalis, which was the same that entered the tumour on the sacrum. On pressing the tumour, after having slit open the dura mater surrounding the spinal cord, the pia mater was seen to swell up, and to give passage to the fluid, which mounting, the pressure being followed up, entered the ventricles of the brain. The pia mater being cut open, a quantity of thickened pus, resembling much coagulable lymph, was seen coating the internal surface of that membrane, and the external of the medulla spinalis for a great extent, and the fluid in the sheath was partly mixed with pus. The tumour below was found to be formed of a process of the dura and pia mater, and was surrounded by cellular membrane and the common integuments, so as to have its parietes nearly a quarter of an inch thick. The tumour was filled with a thick, partly purulent, fluid; the tumour proceeded outwards from the spinal canal, through a deficiency of one of the spinous processes of the last lumbar vertebræ, and by an hiatus in the first portion of the os sacrum. The spinal cord seemed smaller than usual; its membranes in some parts were gorged with blood, and evidently in a state of inflammation.

The viscera presented nothing remarkable on their examination. These are the symptoms of this interesting case, which I can confidently state to be correct. I can only remark, that the efficacy of the practice introduced by Mr Astley Cooper appears to be completely confirmed; for although the termination in this instance was fatal, yet I very much question, whether the last

* As the child, the last few days, constantly lay upon the left side, this may be easily accounted for.

puncture was the cause of the symptoms of inflammation of the medullary membranes producing death, since, if the puncturing had been hurtful, the bad effects would have followed the first attempt, or perhaps the ninth, when the larger needle was employed, and would scarcely have come on after the operation had been safely performed upwards of twenty times. In this case, for nearly a twelvemonth, the patient was restored from a state of paralytic impotence to bodily activity, and comparative freedom from complaint.

The total absence of convulsions towards the termination of the disease, appears a remarkable deviation from cases of inflammation of the membranes of the spine, as generally described.

Æ1, Lothian Street, November 25, 1820.

XIV.

Case of Concussion of the Brain. By JOHN RICHARDSON, Member of the Royal College of Surgeons, London, Licentiate of the Society of Apothecaries, &c.

ON the evening of the 5th of January, I was requested to visit Mary, the wife of John Sheiridan, (private in the 4th Royal Irish Dragoon Guards,) æt. 23 years, who had fallen from the top of a flight of steps on the pavement, distance about three yards. Being particularly engaged at the time, my assistant accompanied the messenger, and found her labouring under symptoms of concussion of the brain. He immediately bled her to the amount of a few ounces, and ordered the following:

Subm. hydrargyri gr. vj. statim. stat.

℞ Sal. cath. ℥viij. cujus cap. ℥ij. 2dis. horis donec purgaverit.

6th A. M.—I visited her, and found her lying quite insensible. On examining her head, found she had struck the pavement with back part of the head; pulse 48 and intermitting; pupils contracted; had vomited twice during the night; medicine not operated; ordered her head to be shaved, and folded cloths to be kept moist with vinegar and water, constantly applied; leeches to the temples, and blister between the shoulders.

Cap. statim. gr. vj. subm. hydr. in forma boli et cochl. ij. magn. Inf. seq. donec purgaverit.

℞ Sulph. mag. ℥iss. Mannæ opt. ℥ss. Fol. sen. ℥iij. Sem. coriand ʒij. Aq. bullientis ℥ij. Infunde per horam, et cola, cui adde Tinct. Sennæ comp. ℥ss. M.

Vespere.—Keeps crying out of pain in the neck, perhaps from the effect of the blister, which appears to rise well; medicine operated twice; stools black and very fetid; pulse 50 and intermitting.

Contin. Inf. aper. ut antea.

7mo, *mane.*—Applied her hand constantly to the left side of her head during the night, and shrieked frequently. Appears better this morning. Answers questions when put to her, but rather impatiently. Pulse 60; tongue white; no stools since last night. Complains of intense pain in the fore part of the head, and is very thirsty. To take toast and water as common drink.

℞ Subm. hydr. gr. v. Pulv. antim. gr. iij. Conserv. q. s. ft. bol. statim. sumendus.

Contin. Inf. aper. Appr. Vesic. magn. capiti.

Vespere.—Has had four copious evacuations of a black appearance, and of a very offensive nature; says the pain in her head is much better since medicines operated.

8vo, *mane.*—Slept little during the night, and appears rather feverish this morning. Blister rises well; says the pain in her head is better; had several evacuations during the night; pulse 58 and soft; tongue white.

Capiat ℥j. Julep. salin. 3tiis horis: et cap. ℥j. Inf. aper ter die.

Vespere.—Has had three stools in the course of the day of a better appearance, and feels much better.

9no, *mane.*—Complains of a smarting sensation about the mastoid process of the temporal bone. Upon examination, found a slight erysipelatous blush; in other respects continues better.

Contin. Inf. aper.

Pulse 60; milk diet; found considerable relief after each evacuation. From this time she continues recovering daily; she takes the aperient mixture occasionally, and a saline draught. She had an infant at the breast seven weeks old, which she continued to suckle during her illness.

This case is chiefly interesting, as showing the beneficial effects of a steady administration of purgative medicines in similar cases, no amelioration of the symptoms being observed until the bowels were freely evacuated.

Leeds, 10th February, 1820.

XV.

Obervations on Inflammation. By William Newcome Ryland, Member of the Royal College of Surgeons, London

The attention of practitioners has been of late years much attracted towards the subject of inflammation, and its consequence in disease has been more strongly perceived, and many improvements in the history and treatment of diseases, before the most obscure, have followed. Still no general foundation has been laid—no regular invariable rules fixed—and much uncertainty still remains as to the division and treatment. The present division into Phlegmonous and Erysipelatous is productive of many disadvantages, and does not fix the nature and seat of the affection sufficiently to enable the practitioner to lay down regular rules of treatment. We hear at one time of bleeding being strongly recommended, with the local use of warm applications, while others say that bleeding is seldom necessary, and trust to cold applications.

Until of late years the internal inflammations were but in few instances noticed, and their varieties not at all attended to. Some of their productions were grossly misunderstood; witness the layers of coagulable lymph exuded on the inner surface of mucous canals, which, when separated, were supposed to be the inner coat of the canal itself. The difference of the kind of inflammation is generally attributed to the variety of constitution of the patient; and it is said, that some inflammations will not bear evacuations of blood, because of the peculiar habit of the patient; but an attentive consideration will show, that the constitution merely renders certain parts or textures more liable to be affected than others, and that the same species of inflammation always affects those parts, and is always benefited by the *same treatment.*

Inflammation is known to have its seat in almost every texture of the body, and in every part of the same texture, whether cutaneous, cellular, serous, or others;—the kind of inflammation is even the same, whether this texture is seated in the upper or lower, inner or outer parts of the body, varying only in symptoms arising from sympathy of contiguous parts, or of those connected by the intermedium of nerves. The illustrious Bichât,—that star of his age, whose premature loss

should be mourned by every nation,—has done so much in explaining and fixing the different textures of the body, that it is only to give local diseases a similar adaptation, to produce all the benefit which he seemed to aim at, but which, singular to relate, has not yet ensued. Broussais's work on Inflammatory Diseases, though containing a large mass of valuable cases, is confined to the medical branch, and his views of treatment are so fettered by the prevailing theories of the French school, that its benefit is very confined. Still it is impossible to read the work without remarking the benefit that accrues from physiological classification; in fact, of treating diseases according to the nature of the part, instead of the irregular and uncertain method arising from habit, mode of life, or clime. The several textures of the body are very distinct, and their diseases are in the commencement equally so, and often remain confined to them alone for a long time. Nothing is more common than the extension of a disease from one end of the body to the other, along one texture, without communicating its effects to the neighbouring texture. The effects of the exposure to cold on the mucous surface afford a good example of this. In a common catarrhal affection, the surface of the eyes becomes uneasy and painful, producing a copious discharge of the natural moisture, and this extends along the nasal passages, down the fauces, and occasionally (where there is much constitutional susceptibility to mucous inflammation) along the stomach and alimentary canal, where it gives rise to those well-known affections, according to its intensity. At present it is sufficient to point out a few of the advantages to be derived from this method; at a future period, if they seem to deserve a place in your Journal, I shall transmit some more particular details.

The capillary vessels are those which form the seat of inflammation in every part, and should therefore be particularly described, and an exact description of the changes that arise in them from that affection should be pointed out. This would lead to a general history of suppuration, mortification, and of the production and immediate cause of heat, redness, tumour, and pain.

After the general history should follow the particular history of each texture, commencing with an anatomical and physiological account of each; the habits of body of those persons who are most subject to it; the clime or temperature of the air most predisposing, and its peculiar tendency; and a description of the varieties of inflammation of that texture; concluding with the means of cure.

The textures most frequently affected by inflammation are the mucous, cutaneous, cellular, serous, and fibrous.

For fear of encroaching too much on your valuable pages, I shall merely select a few remarks, illustrative of the distinctness of some of the affections of those, and of the equally distinct mode of treatment required; premising, that, as inflammation in general is an increased action of the capillary vessels, when this affection of a part produces increased capillary action over the whole system, bleeding becomes necessary to lower this, and to reduce the case to one of local inflammation, in whatever texture the original inflammation may be.

Cutaneous inflammation most frequently attacks persons of that peculiar habit which is subject to irregular action of the biliary system, and thence called bilious. It is more prevalent in warm weather, and is accompanied with more sympathetic affections than any other, arising from the strong sympathies that exist between the skin, and the stomach, brain, and lungs. It is the same whether it affects the head, body, or extremities. In each part it produces similar symptoms from sympathy, particularly of the head, liver, and alimentary canal; and, when it does produce fever, it seems to have that effect more from derangement of the alimentary canal, than through the medium of the nerves or circulation.

Therefore erysipelas rarely requires bleeding, except from supervening serous inflammation, when it has severely attacked the head, or when it is extensively diffused. It is always benefited by intestinal evacuation, and by the occasional application of mild, luke-warm, local applications. Much difference of opinion has arisen as to the propriety of the use of the latter, arising apparently from the want of proper attention in their application. If they are applied in the form of poultice, the irritation of their weight more than counterbalances the advantage derived from their soothing power; and if they are continued too long, they produce too great a discharge of serum from the cellular surface beneath. But if they are applied frequently, for a short period each time, and of a temperature regulated by the feelings of the patient, they sooth the irritation of the nerves, and moderately promote the discharge, which diminishes the inflammation. Checking the discharge entirely, by the application of powders, at least until the inflammation has in some degree abated, is injudicious. The discharge is merely an effect of the inflammation: when that ceases, it seldom continues. The advantage of evacuating the bowels freely is in no case more clearly shown than in this, of inflammation of the cutaneous surface. The class of purgatives which answers this purpose best are those

which act upon the upper part of the intestinal canal, and from thence solicit a free evacuation of bile, as calomel, neutral salts, &c. The next example which seems best adapted to showing the advantage of this classification, is inflammation affecting the serous textures: first, because its phenomena and treatment are very different from those of the former; and next, from its being attended with fewer nervous sympathies than any other. Inflammation of the serous membrane of the head, chest, and abdomen, often goes through its course without giving rise to disorder of the organs in either of the cavities, except of that in which it is itself situated. It is evident, when the inflammation is so violent as to produce general fever, it must affect them, but not in the same manner as cutaneous inflammation. Even peritonitis, though it causes obstinate constipation from contiguous sympathy, (or rather from stimulus communicated to the muscular coat,) and also vomiting, is not attended by any of those symptoms denoting a deranged state of the digestive organs. In pleuritis, and in inflammation of the pia mater, this is still more evident, both of them generally occurring without any such effect.

The effects of the inflammation on this texture differ much according to the intensity. A slight degree merely produces an increase of the natural vapour, sometimes amounting to a fluid, as in the production of dropsy; this is most frequently observed in the head, and in the cavity of the tunica vaginalis testis. A greater degree is followed by the effusion of lymph, and the violence continuing unabated, vessels shoot into this lymph, and take on the purulent action. The two last are most clearly exemplified in the cavity of the pleura; within which a copious collection of pus has been known to take place, without producing disorder of the head or digestive organs. It is almost unnecessary to say how absolutely necessary bleeding is to the cure of this species; it being now generally acknowledged, by all judicious practitioners, that as long as any pure fever continues, before disorganization takes place, (and even then, if the vessels can be considered to be still pouring out lymph,) to be our chief anchor.

It can scarcely be considered as encroaching on the province of the physician, to turn over to the surgeon those affections which he is so frequently called upon to attend, and from his necessarily stricter anatomical knowledge, so peculiarly fitted to study; it is only singular that they should ever have been separated.

XVI.

Case of Painful Subcutaneous Tumour, in which the Tumour was penetrated by the Twig of a Nerve. By JOHN WINDSOR, F. L. S. Member of the College of Surgeons, and one of the Surgeons to the Manchester Eye Institution.

IN the 8th volume of the Edinburgh Medical and Surgical Journal, there are two papers by William Wood of Edinburgh, on the subject of a very troublesome affection, which he has named "painful subcutaneous tubercle." In the 11th volume of the same work, a case of the same disease is also related by Dr Marshall Hall. I am induced to publish the following case, from observing the tumour to have been penetrated by the twig of a nerve, a peculiarity which does not appear to have been noticed in the cases related in this Journal, but which may be thought to illustrate in some degree the nature of this affection.

The exquisite and painful sensibility of these tumours is indeed the most remarkable part of their character, and seems to imply some particular connection with the nervous system.

In one of the three cases related by Cheselden, (p. 136, Ed. 11th of his Anatomy,) the tumour, situated on the nates, is described to have been only the size of a pin's head, and yet the pain from it was so severe, that the patient could not set his leg to the ground, nor turn in bed, without the greatest suffering.

In the other cases which have occurred, the pain appears to have been nearly of the same most acute kind.

Though this affection has not escaped the attention of several observers, the real nature of it seems hitherto to have, in a great measure, eluded their remarks, or at least to require further attention.

Camper, indeed, mentions the attachment of these tumours to the cutaneous nerves, and the following case seems to corroborate this part of his description. He also says, that they are real ganglia, and situated within the coats of nerves; but this opinion probably requires further confirmation.

Mr Wood remarks, "That the disease is intimately connected with the nervous system, I think there can be little doubt from its symptoms; but I conceive, that more frequent and more accurate examinations of the structure of the morbid part are still

wanting, to enable us to ascertain in what way the connection is formed."

9th month, September 1st, 1820, I was applied to by Ann Knolt, æt. 59, on account of a small tumour, situated immediately under the integuments, on the thonal and radial aspect of the arm, three and a half inches above the wrist, moderately loose to the feel, but most exquisitely tender to the touch. It is about the size of a large pea, or nearly that of a horse-bean, and to the feel of considerable hardness, but she complains very much on touching it. The integuments over it appear healthy, but there is some appearance of a bluish discoloration in the part. She has no pain in it except when it is accidentally touched, and that is followed by the severest pain for several hours, sometimes accompanied with faintness, and with a feeling of heaviness in the parts. On these occasions the pain extends from the part towards the trunk, but not downwards towards the fingers.

About eight or nine years since she had a pleurisy, for which she was bled in the arm three times then, and has occasionally been bled since. It was soon afterwards, and before she was perfectly recovered of her illness, that she felt a soreness in the present site of the tumour when it was touched, as if she had received a blow in the part, but nothing could be seen for two or three years after that time. About six or seven years since she perceived a very small swelling, scarcely larger than a pin's head, which has gradually increased to its present size; for the last twelve months it has not, she thinks, enlarged.

To remove it I made a small single incision over the centre of the tumour, then dissecting back the integuments a little on each side. I cut round it, and removed it. In doing this a small artery bled freely, obscuring the part. The tumour was apparently of the encysted kind; it was nearly all removed, but a small portion remaining, it was next taken away. In doing this a filament of a nerve was observed going to the part. I cut this away also for the length of an inch, which was followed by a sensation of numbness in the part, so that she said she could scarcely feel any thing in it for a short time. On laying open the small tumour removed, I found its contents consisted of a number of granules, quite gritty or earthy to the feel.

The edges of the incision were approximated by adhesive plaster; they did not unite entirely by adhesion, but the part was healed in about a fortnight.

Upon considering the case, it does not appear to me improbable, that, in one of the bleedings, of which she had undergone many, or from some similar cause, a branch of a nerve might

have been injured. She does not, however, now recollect suffering more particularly at any one time.

Supposing it, however, to have occurred, it seems likely to have given origin to a disordered action in the course of the nerve, in the vessels and parts supplied by the filament, and hence, perhaps, the source of the tumour. This opinion seems to be rendered more probable from the very highly sensible state of the swelling; from a nerve being seen entering its substance; perhaps, also, from the remarkable nature of the contents, which seemed to be to the feel chiefly of an earthy nature; and from the pain shooting upwards in the arm, in the direction of the nerve, not downwards towards the fingers.

In this case it may be remarked, that the pain did not come on spontaneously in paroxysms, but was, as before observed, always severely excited by any thing touching the part.

The little tumour, along with the nerve which penetrated it, I preserved, and have had an opportunity of showing it to my friends Dr Hull, Mr Wilford.

Manchester, 9th Month, September 30th, 1820.

XVII.

Ganglion at the Wrist mistaken for Aneurism. By John Burne, Jun. Esq.

A young lady, residing at Ardres, in the north of France, requested my opinion concerning a tumour, which had been forming at the wrist for a considerable time.

The figure of the tumour was somewhat oval; the situation exactly in the course of the arteria radialis, being in front of the base of the radius, and extending transversely from the apophysis styloides of that bone to the tendon of the flexor carpi radialis. In this direction was its longer diameter. It had an evident and general pulsation; it entirely disappeared on the application of firm pressure, and, on the removal of it, reassumed its former size.

The situation, the general pulsation, and, above all, the disappearance of the tumour on pressure, decided me at once to pronounce it an aneurism, and to advise the lady to submit to the operation, as the only means of cure.

Several surgeons of Calais, of Ardres, and of St Omer, had been consulted; they all gave a similar opinion.

The lady, anxious to get rid of the swelling, although neither painful nor troublesome, consented, without hesitation, to the plan recommended. Happily, however, both for the patient and for myself, her friends were opposed to it, and the operation was, in consequence, delayed.

I now quitted Ardres. At my return thither, after an absence of seven months, I again saw the tumour; it was rather enlarged; in other respects the same. On regarding its surface, after having raised it to a level with my eye, I discovered a slight elevation of the integuments, with pulsation in one particular part; and, from an attentive and minute examination, two arteries were distinctly perceived passing over the tumour, and immediately under the skin. They were the arteriæ radialis and superficialis volæ.

The swelling now evidently appeared like a ganglion, probably of the theca of the tendon of the flexor longus pollicis manus, on which lies the arteria radialis. The gradual enlargement of the ganglion seemed to have raised the arteria radialis from its natural situation. The trunk and course, both of this artery and of the superficialis volæ, were readily seen and traced. That of the former directed outwards to pass under the tendons of the extensor ossis metacarpi pollicis, and of the extensores primi et secundi internodii pollicis. That of the latter directed inwards, and descending in front of the ligamentum annulare anterius carpi. The origin also of the superficialis volæ was discernible; it was just before it gained the tumour.

The passage of the two arteries, in different directions across the ganglion, explained the cause of the pulsation being general; and the reason also why the swelling disappeared on being firmly compressed was, that pressure forced the contents to pass into the theca of the extensor longus pollicis.

Being now sensible of the error into which we had all fallen, I sent the lady to one of the surgeons, (Monsieur Ballard, a very intelligent gentleman of St Omer,) whom she had previously consulted, with a letter, apprizing him of our mistake, and enumerating the reasons for considering the tumour to be a ganglion. My communication was delivered to him on the evening of the lady's arrival at St Omer; she herself did not wait on him until the following morning; and so decidedly was Monsieur Ballard of opinion that the enlargement was an aneurism, that my letter failed to convince him of the contrary. Immediately, however, he had seen the patient on the morrow, and

had examined the tumour, he was perfectly satisfied of its nature being as I described. In his reply he observes,

"J'ai lu votre lettre sans etre encore persuadé de votre opinion. L'examen de la jeune malade, que jè n'ai vue que le lendemain, m'a entièrement tiré d'erreur, et nous sommes fort heureux, vous de n'avoir pas, en Juillet dernier, fait l'operation, et moi de l'avoir fait retarder jusqu'en ce moment; puisque c'eût été une opération qui n'eût eu que les plus tristes résultats par son inutilité. Agréez, Monsieur, mes compliments sur la réparation de notre commune erreur. Je pense comme vous, qu'avant la consolidation du ganglion, il est peu d'hommes de l'art qui n'y eût été trompé. Si vous en faites l'objet d'une observation dans les journaux Anglois; je le citerai aussi dans les recueils de médecine de France, et rappellerai avec honneur votre nom," &c.

(Signed) BALLARD.

Edinburgh, 25th April 1820.

PART II.

CRITICAL ANALYSIS.

I. II.

I. *A Practical Treatise on the Diseases of the Eye.* By JOHN VETCH, M. D., F. R. S. E., &c. &c. London, 1820. pp. 268.

II. *A Synopsis of the Diseases of the Eye, and their Treatment; to which are prefixed, a short Anatomical Description and a Sketch of the Physiology of that Organ.* By BENJAMIN TRAVERS, F. R. S., Surgeon to St Thomas's Hospital. London, 1820. pp. 425.

IT has been well remarked by one of the authors now before us, that the attempts made in this country to place the knowledge of ophthalmic diseases on an equal footing with the advanced progress of pathological science in general, may be regarded as the event of the passing day. To Messrs Gibson, Ware, and Wardrop, great praise is due, for the share they have had in promoting this desirable event; but it is to our emulation of the schools of Italy and Germany, and to the labours of the late Mr Saunders, that we principally are to attribute the present improved state of British ophthalmology.

The ancient Egyptians appear to be the first who divided the art of healing into as many distinct branches as there were diseases or organs of the body; they had their Oculists and their Aurists, their Liverists, their Spleenists, and their Stomachists; their cutters for stone, and their cutters for corns. Among this extraordinary people, however, there is every reason to suppose,

that the practical part of medicine and surgery was at a very low ebb, notwithstanding the eclat with which their priests taught these sciences in the temples; indeed, if we investigate the history of our profession, we shall invariably find, that in all countries, in proportion as subdivisions have been multiplied, and individuals have devoted themselves to some one of them, to the exclusion of all others, while they have, at the same time, neglected to cultivate both the philosophy and the details of the profession at large, they have dwindled into mere artists, and, in innumerable instances, have descended to the lowest tricks of empiricism; while, on the other hand, some of the brightest ornaments of medicine and surgery are to be found among those who, fundamentally grounded in all parts of these sciences, have directed their attention more particularly to one point.

No class of seceders from general practice have entailed upon themselves the charge of Charlatinism more than the oculists. Whether they have been prompted in their selection by the never failing source of employment, the immediate profit, or the contingent advantages to be derived from the patronage of the rich and the powerful, we shall not attempt to determine, but that it has not proceeded from the abstract love of science, will be obvious to those who know the tenacity with which this class of persons conceal their methods and their self-denominated discoveries, so long as it is their interest so to do; a calculating selfishness altogether incompatible with professional zeal.

It was at one time our intention to have laid before our readers a chronological and critical sketch of the history of ophthalmic surgery in England; but we found that so small a portion of pleasure or profit could be derived from the brief abstract to which we must necessarily have confined ourselves, that we relinquished the plan, and must be content with offering a few cursory notices of the early English oculists.* The first of these was Read, who published in 1706, and who was followed

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* A Treatise of the Eyes, by Sir W. Read, Knight. 8vo. Lond. 1706. Ophthalmiatria, by W. Cowand. 8vo. Lond. 1706. Ophthalmographia, by Peter Kennedy. 8vo. Lond. 1713. A Treatise on the Diseases of the Horny Coat of the Eye, and the various kinds of Cataracts, by Benedict Duddel. 8vo. Lond. 1727. Taylor's works are numerous: his first English work was published at Edinburgh in 1749, folio; it is entitled a Catalogue of 243 Diseases of the Eye, with coloured plates, very poorly executed. Woolhouse published a "Catalogue of Instruments" in French at Paris, 1696, and continued writing till 1723, but we possess no original work of his in English. Besides these authors, O'Halloran, Warner, Hill, Rowly, Chandler, Marat, Degravers, Wallis, and Wathen, wrote between 1750 and 1798, when Mr Ware published his

in succession by Cowand, Kennedy, Duddel, and Taylor. A perusal of their works will establish the justice of the opinion we expressed in the commencement of this paper. Every one of these individuals obviously wrote in order to spread his own fame by announcing his own cures; pretensions the most extravagant, and a spirit of pugnacity the most unrelenting, are to be traced throughout the whole of their productions. Jealous of each other, they are unanimous in depreciating the members of the profession at large, and whenever they have occasion to speak of them, they display, as Haller observed, "subtiles cavilli et meliorum reprehensiones, absque novo invento." We believe we may with justice affirm, that every original proposal of the smallest intrinsic importance, and every sound pathological view with regard to the treatment and operations on the eye, have proceeded from men eminent in the general practice of their profession: from such men as Daviel in France, * or Cheselden or Pott in England; but men of this stamp were intolerable to the oculists; and Dr Peter Kennedy, the individual to whom Haller alludes, attached to his "Ophthalmographia," a supplement, considerably larger than the work itself, to convict Cheselden, Porterfield, and Sharp, of plagiarism and ignorance!!

The older oculists, some of whom were females, appear to have been "ex professo" itinerants; and it is not a little ludicrous to hear one of them (Duddel) explaining "why certain pretenders" recommend the spring and autumn as the only proper seasons for couching, because, says he, "at those times, it is most convenient for themselves to travel." Numbers of these persons at once exchanged the scissars, or the last, for the couching-needle, but others had some superficial, surgical, or pharmaceutical information, and completed themselves as oculists on the Continent. Kennedy and Duddel were pupils of Woolhouse, oculist to the abdicated James, who resided at Paris, and lived to a very advanced age, engaged in perpetual professional squabbles with all around him. One of his favourite instruments was a scarificator made of beards of barley, and this was very extensively used by Duddel in England. Duddel's book, not-

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Observations. The works of some foreign authors were also translated, the best of which were those of St Yves and Richter.

* Daviel was a naval surgeon, of great industry and talent. He lectured on surgery and anatomy, and distinguished himself during the plague at Marseilles, by his indefatigable exertions to alleviate the horrors of the disease. It is no small praise to say, that Daviel was correspondent and friend of Haller.

withstanding many practical errors, contains various cases, from which he appears to have had more caution than many of the modern oculists, and to have weighed the probable advantages to be gained by his operations, before he attempted them.* Kennedy's book contains a very short and defective account of the diseases of the eye, with a still shorter and equally defective appendix on those of the ear. Of Cowand's work, we know only the title. The excursions of the Chevalier Taylor extended over most parts of Europe, and some of Asia. This oculist was at the head of his craft for nearly forty years; and, between 1735 and 1764, a vast number of his works were published in almost every European capital. They were generally in the style of advertisements, interspersed with flattering testimonials of his skill. Of these last, he published a numerous collection at Amsterdam, in 1749, purporting to contain the opinion of the principal universities of Europe; among these, the Portuguese and Spanish documents were the most laudatory, and, from the state of science in these countries, they were about as valuable as similar documents from the "Nobility, Gentry, and Members of Parliament," which clearly testify to the infallibility of the empirics of our own day. Taylor, among other exploits, pretended to possess the secret of drawing off the effete and turbid humours of the eyes of old people, and replacing them with fresh and youthful fluids. This secret; however, was not confined to him exclusively; for Woolhouse, Burrhius, and Kirkringius boasted of the same. We have seen some manuscript accounts of his operations by an eye-witness, from which it would appear, that his dexterity was very great, but that he took, or appeared to take, almost incredible liberties with his instruments. In one of his operations, he is stated to have twirled about the couching-needle in the interior of the eye with as little ceremony as if he had been poaching an egg. The Chevalier illustrated his works with coloured figures, and he exhibited models of the diseases in painted glass or enamel, a method since adopted among the French and other foreign artists.

One of the most highly honoured of the early English oculists—if, indeed, his titles were not of his own creation—was Sir Wil-

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* Speaking of one unfortunate operation, he says, "It would have been much better to have left his eye untouched, than to have given him light for three months, and reduced him for the rest of his life to darkness." Treatise, p. 196.

liam Read, knight, "her Majesty's oculist, and operator in the eyes in ordinary." Where he received his education, or whether he ever travelled beyond the precincts of these islands, are points of which we are ignorant; but he informs us, in his Treatise of the Eyes, that he performed sundry cures in the Universities of Oxford and Cambridge, at Edinburgh, Glasgow, Aberdeen, St Andrew's, Dublin, &c. Some of these were witnessed by noblemen, high in rank and office, who appeared to have patronized him. Of this connection with the great he appears to have been not a little proud; and in the detail of his cases he informs us of operations performed on the daughter of Sir Robert—on a patient procured by my lord's butler—and on a certain lady, "whose name he is obliged to conceal." Among his cures he seems to have valued himself greatly upon that of a soldier of her Majesty's Horse Grenadiers, from whose eye he extracted a cancerous excrescence, that had for thirteen years "resisted his own surgeons, and the rest of the profession," &c. &c. Read also pretended to be in possession of a wonderful styptic, and an aqua ophthalmica of great virtue; but notwithstanding these and other empirical advertisements, there are some curious facts to be collected from his book. Of these the most remarkable is to be found in the twenty-first chapter, "Of small excrescencies of flesh in the eyelid, or mulberry, called in Greek Plactarotes and Sarcoma, in Latin Morus." p. 95. The cure of these granulations by excision and caustic, concerning the invention of which we have of late heard so many claims, and so much clamour, is distinctly described, and without any comment, which could lead us to suppose that it was out of the usual routine of practice. "Concerning the cure," he observes, "if they be thick and gross, they must be cut away dexterously with the point of a lancet, and afterwards let the place be touched with a little fine salt, alum, or copperas water, applying also such medicines as may dry the eye without great pain." Among the other remedies of those days were "the white of hen's dung," "the juice of goose's dung," and the insertion of a living louse, "which tickleth and pricketh, and rendereth the eye moist and rheumatick."

With scarcely any change, except some modification of the instruments and external applications, or some small difference in the ceremonial of their manipulations, and without contributing to either the improvement or the respectability of the profession at large, the exclusive oculists of England remained, throughout a very considerable part of the eighteenth century. The majority of them were bold and ignorant men, possessed

ne manual dexterity, but grossly deficient in all the other
fications which rendered an operator valuable. Fortunate
se frequently are, who, through habit and fearlessness of
quences, venture every thing, many of these persons ar-
at great popular celebrity; but when their pretensions
to be fairly analyzed, the utmost that can be allowed to
is, that they stood the foremost in the ranks of a trade
quackery has in all ages and all countries marked pecu-
as its own. We shall now turn to the brighter era, in
men of science have begun assiduously to cultivate this
f the profession. The names of the authors of the works
us give strong assurance of the value of their publica-
and a careful perusal of these will justify the feeling.

the readers of this Journal, many of the observations
r Vetch are already familiar. In the present treatise
s condensed, arranged, and combined, with a consider-
nd valuable portion of new matter, the most import-
f his former contributions to ophthalmology, and he
resented to us, beyond comparison, the best account of
almia, more particularly as it has prevailed in our army,
hence spread into civil life, that has yet appeared. His
is divided into two parts. In the first, he treats of the
al character and treatment of ophthalmic inflammation—of
almitis sclerotica—ulceration of the cornea, and opaque
a—of ophthalmitis iritica vel sclerotica internus—on lenti-
and capsular inflammation,—and on amaurosis. In the
d part, he treats on ophthalmia arising from climate and
pheric changes—catarrhal ophthalmia—the purulent oph-
ia of the British army—gonorrhœal ophthalmia, and the
almia of infants. We hope that Dr Vetch will not stop
e threshold, but that he will be induced to continue as
s begun, and that he will give us a complete and syste-
view of all the other affections of the eye.

ny persons have supposed, that venesection was had re-
e to by the army surgeons indiscriminately, in all states
tages of inflammation of the eye, and, arguing on this gra-
s and hypothetical assumption, they have anticipated the
injurious consequences to the system, from the inordinate
ity of blood that may be taken before any barrier is op-
to the further progress of inflammatory action. The fol-
g extract, however, will show how greatly this practice has
misunderstood, and how unlikely it is, in able and discri-
ing hands, to cause the untoward consequences that have
o much dreaded.

"Inflammation in the conjunctiva, while it has little dependence on the general state or condition of the system, and seldom excites any of the constitutional effects of inflammation, is, on the other hand, but little affected by any moderate reduction in the force of the general circulation; depletion from the system must therefore be carried to its farthest limit, in order to make any sensible impression on a part so far removed from the force of arterial action; yet by another law, no less certain, we find, that, if the abstraction of blood, by venesection, either of the arm or neck, be carried to the extent of producing a state of syncope, the suspension of action, and the collapse of the vessels thereby induced, will prove the end or cure of the disease. The salutary effect of syncope I can only ascribe to the laxity of the vessels rendering them unable to recover their former tone and state of excitement; and it is only as far as we hold this specific effect in contemplation, that venesection is to be regarded as a principal remedy in the treatment of ophthalmia. The strength and fibre of the patient may be reduced, by abstinence and repeated blood-letting, to the lowest standard, without producing any material benefit, or insuring the organ against the destructive consequences of the farther progress of inflammation.

"The effect of syncope, produced in the way now mentioned, has no such control over the inflammation, which supports itself in the vessels of the sclerotic coat; and as it cannot be made by this summary effort to quit the hold which it has obtained, instead of urging the practice to a greater extent, we must endeavour to obtain the object by means more immediately directed to the part. The abstraction of blood in quantities proportioned to the violence of the symptoms, more especially by means of cupping and leeches, has, for the most part, a sufficient control over the various states and individual symptoms of sclerotic inflammation as to render any larger bleeding unnecessary.

"Besides the beneficial effects of bleeding by leeches applied to the adjacent integuments, we have a still more advantageous command over ocular inflammation, by the direct application of the animal to the conjunctival lining of the inferior palpebræ, and, in many of the more obscure cases of amaurotic inflammation, I have derived very great assistance by applying them to the septum nasi. The orifices which they here make bleed most freely, and may be supposed to afford the speediest relief in any congestive state of the ethmoidal circulation; and, as they never occasion echymosis, the place is particularly eligible where external appearances require to be consulted." pp. 14—16.

In further illustration of this subject, Dr Vetch observes:

"Dividing or opening the temporal artery has been considered as uniting the advantages of local to those of general depletion. With such a view I tried it at one time extensively, and I speak with deference in saying, that my experience of its utility does not correspond with the general sense entertained of its efficacy, having al-

ways found a smaller quantity of blood obtained by cupping to be of more real service than a much larger quantity taken from a single branch of the artery. Some explanation of this result may perhaps be found in the power which arteries possess of rapidly accommodating themselves to the exigency of the part which they supply, so fully exemplified in the history of tumours, of aneurisms, and in the various periodical changes to which the action of these vessels are subservient. The opening of a branch of the temporal artery seems immediately to occasion a greater flow of blood into the others; they evidently increase in size during the operation, and continue so for a considerable time afterwards. If the principal arterial trunk of an extremity is wounded, or otherwise obstructed, the anastomosing branches speedily carry the same quantity of blood as before, and with a greater degree of action, for the temperature of the part soon exceeds the natural standard, below which it had at first fallen. We may therefore perhaps infer a similar effect to follow a division of the temporal artery, and which will necessarily affect the circulation of the eye, which the bandage necessary to be applied after the operation may further increase; but whatever be the theory, the local benefit is much greater if the blood is taken away by cupping, while every other advantage is both more easily and more effectually attained by venesection, performed in the neck or the arm." pp. 38, 39.

Dr Vetch informs us, in another part of his work, that the average quantity of blood abstracted before the approach of syncope appeared to be from 24 to 34 ounces. (p. 222.) The management of another very powerful agent, caustic, is very judiciously laid down. The plan of Dr Vetch differs from that of the venerable Scarpa, but we believe the experience of the majority of practitioners in this country is in favour of the milder mode of employing it, recommended by our author. He is speaking of the ulceration and incipient protrusion of the membrane which lines the anterior surface of the cornea, before the more advanced stages of staphyloma are fairly established.

"First, the ulcerative process can only be checked, when it is proceeding to destroy this membrane, by those measures which are capable of subduing the inflammation on which the action depends. As long, therefore, as there is an appearance of activity in the disease, or recurrence of pain, local blood-letting by cupping or leeches must be steadily adhered to. The indication of the ulcer healing is easily seen in the diminished activity of the inflammation, relief from pain, and the clear aspect of the ulcerated part. The injection of vegetable tepid astringent infusions may be used, or milk and water only. When called upon in extreme cases, where the immediate perforation of the inner membrane is threatened, we may with great propriety resort to the operation of puncturing the cornea, at a place as remote as possible from the ulcer; the operation being, I conceive, in such

a case, fully warranted both by reason and experience. Next in importance to a diminution of the action on which the ulcer depends, is the removal by scarification of any slough thrown out, either on its surface or imbedded in the adjoining part of the cornea. Sometimes, but always subordinate to these indications, we may add some topical applications to the ulcer, a solution of nitrate of silver, the infusion of tobacco, or calomel in powder applied with a camel's hair pencil, may occasionally be employed with advantage. Thirdly, the application of caustic to the incipient staphyloma, or projection of the inner membrane, whether accompanied by procidentia iridis or not. In speaking of this, I must observe, that it becomes, altogether, a different remedy from the mode of employing it recommended by Scarpa, who directs it to be applied till a slough is formed, whilst an assistant keeps the eye fixed. Such an application, my experience would lead me to suppose, would be fatal to the success of the remedy. It is quite sufficient that it barely and instantaneously touches the surface. By this slight application repeated daily, the incipient vesicle recedes, and the iris, though pointing forwards, attracted as it were to the cornea, is saved from any permanent adhesion. Caustic cannot come in contact with any moist part without leaving by solution a white mark, but this is all that it should be allowed to produce. If the caustic touches by accident the edge of the ulcer, or any part but the apex of the projecting vesicle, it will often produce much mischief. From one application too powerful I have seen the benefit of long previous successful treatment completely lost." pp. 57, 58.

When staphyloma is unfortunately established, Dr Vetch has succeeded in removing the deformity by the proper management of caustic and the seton, and in bringing the parts to that state in which the operation for artificial pupil may be advantageously had recourse to. Here again he differs from Scarpa, or rather from Celsus, who removes the apex of the tumour; neither does he in these cases approve of the evacuation of the aqueous tumour by puncture, as the regeneration of that fluid renders it necessary to perform the operation again and again.

The mode in which Dr Vetch has executed the section on opaque cornea, and the chapter on the purulent ophthalmia of the army, meets our unqualified approbation. Although he necessarily speaks of his own professional labours as a public officer, he taxes neither the patience nor the pockets of his readers by a long detail of the unworthy attempts that have been made to detract from his merits. For the present race it would be unnecessary, since the opinion of all that is scientific and estimable in the profession is decidedly in his favour, and, for futurity, a detail of personal feelings might excite sympathy, but could have little influence on the impartial historian of our art, within whose province it will fall to record, at some future pe-

riod, the result of claims without foundation, successfully supported by the hand of power, where power was irresistible and explanation impracticable.

In the opinion expressed by Dr Vetch of the injurious effects of the excision of the conjunctiva, when pertinaciously persevered in, we fully coincide. For some years past we have diligently watched the effects of this operation, and we, without hesitation, declare our conviction, that it is inadequate to effect a radical cure of the granular state of the lid. In adroit hands it may be effected without serious injury; but we have seen the most untoward consequences follow its employment in the ordinary run of practice. Among these we have seen the parts so much injured by the repetition of this process, that, after violent paroxysms of inflammation, it became impossible to evert the lids, and, in numerous cases, the ball of the eye has become fixed and immoveable on its axis, while, in many others, it has sunk in its orbit, and the sphere of vision has been much lessened. We do not, however, mean to say, that, in certain circumstances, the knife and the scissars may not be advantageously associated to the escharotics.

The chapter on Iritis contains an excellent account of the symptoms both in the ordinary and the arthritic species of that troublesome affection. Dr Vetch admits of the specific efficacy of mercury in checking the progress of the inflammation, but, in the treatment, does not much insist on it, at least not to the extent of affecting the mouth. He depends upon cupping the temples, on the rubbing a small quantity of mercurial ointment and opium on the eyelid and temple morning and evening, and the local use of stramonium and hyoscyamus. The free use of digitalis he also considers as a powerful auxiliary.

In the chapter on Cataract and Amaurosis our author gives a brief but comprehensive view of many interesting points in the pathology of these diseases, but neither in this nor any other part of his work does he enter into surgical details. We must again express our hope that these are reserved for another volume.

Dr Vetch's work is illustrated by three plates, which are sufficiently explanatory, without, by their style of execution, enhancing the price of the book.

Mr Travers's Synopsis embraces a much wider field than Dr Vetch's treatise, and is necessarily less diffuse on particular subjects. His observations are divided into the anatomical, the physiological, the pathological, and the practical,—embracing a complete and condensed system of ophthalmology; and, when

we say that there is not a section which does not exhibit proofs of the talent and the judgment of the author, we only express an opinion in which we are assured we shall be borne out by every properly qualified person who opens this interesting and beautiful volume. The abilities of Mr Travers have long since been known to the public, and in his present work he has not taxed them beyond their powers, nor has he employed them on a subject in which he had not ample experience. The practice of many years at the Eye Infirmary has furnished him with abundant opportunities for observing disease; his intimate knowledge of his profession has enabled him to appretiate and avail himself of them; and, in the liberal spirit of a lover of science, he has, in the work before us, laid open his acquisitions to the members of the profession at large, and presented them with a system of British ophthalmic surgery, which, in no one point that we have examined, shrinks from a comparison with the best works of our German and Italian brethren.

It cannot be expected of us to enter into an analysis of a synoptical work; we shall, perhaps, best perform our duty by giving a specimen of the mode in which it is executed. We shall, therefore, present our readers with a short extract. This we shall take from the page now open before us, which contains an account of that species of functional amaurosis which Mr Travers denominates the Metastatic.

"Amaurosis by mestastasis is not unfrequent. I have seen it from the state threatening effusion into the chest, from gout in the foot, and swelled testicle; in all which cases the oppressed organs were suddenly relieved, and the eye as suddenly affected. Thus a person goes to bed with good vision and rises blind.

"A lady, above the middle age, who had long been subject to occasional attacks of pulmonary congestion, after one of unusual severity, threatening hydrothorax, was suddenly affected with paralysis of the upper eyelid of the left eye; the sight was slightly, if at all impaired. On the following day, however, she had totally lost the sight of that eye, the pupil of which was dilated and motionless. On the morning of the third day, the upper eyelid of the right eye was paralysed, and the vision of that eye was also much impaired. On the fourth day the ptosis on the left side had disappeared, and the eyelid on the right side resumed its position. She was now in a state nearly approaching to complete blindness; both pupils dilated, although the left most so, and nearly, if not quite inactive. The attack was accompanied by a marked simultaneous relief from the threatening symptoms of the original complaint, and occasional fugitive pains, across the front and top of the head. Upon inspecting the eyes opposite the light the appearance described 5, page 147, was conspicuous in both eyes, and led her physicians, who were of the

first eminence, to apprehend an incipient opacity in some interior texture. Under the frequent administration of calomel and rhubarb, in moderate doses, and the alternate repeated application of blisters behind the ear, and to the nape of the neck, with abstemious diet, the vision of both eyes was gradually restored.

"A man, the subject of hernia humoralis, lost an unusual quantity of blood by the bites of leeches applied to the part. The testes were suddenly and greatly reduced, and he complained of uneasy sensations in his head; to use his own phrase, a pain like opening and shutting. Without any other visible sign of amaurosis than a dilated and sluggish state of the pupils, he described a dark screen seeming to rise gradually from below upward, and at length totally obscuring the sight. He lost blood from the head repeatedly, and underwent a full course of mercury without benefit. A state of perfect amaurosis ensued.

"The gout attacks the eye through the medium of the stomach. Vomiting occurs with pain in that organ, on the subsidence of an inflammation in the extremities, and is succeeded by violent pain in the head. The loss of sight is sudden and permanent.

"A gentleman, after an attack of gouty inflammation in the foot which suddenly ceased, was attacked with pain in the stomach and vomiting; this in the course of the day subsided, and in the night a violent pain in the head was succeeded by an almost total loss of sight, which was never afterwards in any degree restored, although, by steeping the feet in a hot infusion of mustard, the great toe inflamed so much as entirely to relieve the head and stomach.

"To this class belong the cases of amaurosis consequent upon the sudden suspension of the catamenia, and of habitual hemorrhoidal discharges; the rapid healing of large ulcers of long standing, and the sudden retrocession of cutaneous eruptions." Pp. 161—164.

"The restoration of the original malady," says Mr Travers, "if it be practicable without involving the patient's safety, or the substitution of an artificial excitement or discharge, which may serve as an equivalent, appears to be the natural indication, and such a practice has been attended with success. (See case of Professor Beer's in the 'Analecta' of the Quarterly Journal of Foreign Medicine and Surgery, No. VII.) But the prognosis is necessarily one of *great* uncertainty."

Six beautiful plates illustrate this volume.

III.

Practical Observations on Chronic Affections of the Digestive Organs, and on Bilious and Nervous Disorders; being an Attempt to combine with English Practice some useful methods of Cure employed on the Continent. Also Remarks on Warm

Mineral Baths, Mineral Waters in general, and on the Use and Abuse of the Cheltenham Waters. By JOHN THOMAS, M. D. 8vo. London, 1820. Pp. 168.

THE avowed object of this little volume is, as its author informs us, to communicate some useful means employed on the Continent in the treatment of chronic affections of the digestive organs, which are not generally employed in English practice. These means are glysters, warm-baths, and the application of leeches to the anus. We are convinced that these remedies have hitherto been too much neglected amongst us; of the last, in particular, we have long had a very favourable opinion from having ourselves witnessed its utility in Continental practice. In a former Number of this Journal, (Vol. XIV. page 136,) the late respectable Dr Brown gave some accounts of the mode and extent to which leeches to the anus were employed in Russia, an account which has been confirmed to us by a British physician who long practised in that country, as well as by several native physicians with whom we have conversed upon the subject.

Dr Thomas, although a Cheltenham physician, adverts, with much delicacy, to the late disputes with regard to the addition of what has been denominated the concentrated water, to the water drawn from the spring. We are not in possession of all the facts and statements upon this subject, and, though we were, we should not consider it as respectful to the profession to record squabbles which are always disgraceful to it, happen where they may, but which are doubly so when they occur at watering-places of fashionable resort. We may mention, however, that, although he advocates the cause of the Cheltenham waters, our author does not approve of any addition to them, inasmuch as the natural mineral waters owe a considerable share of their efficacy to the extreme state of dilution, in which they hold their component parts in solution. Those of Cheltenham Dr Thomas supposes to derive their powers from a triple union of the sulphate of magnesia, soda, and potass. He gives some analysis of these waters, as well as of a few of the Continental medicinal springs, with a short account of their virtues, in order to afford data for a comparison. None of them, it appears, are so highly impregnated with saline principles, but they are generally more gaseous, and are mostly of that class denominated *thermal*.

To the employment of mineral waters as baths, as well as internally, Dr Thomas's opinions are highly favourable; and he urges the propriety of remaining in them, not as we are in the

habit of doing in England, for ten or fifteen minutes, but for one hour at least, as they are used on the Continent. In some places, to our knowledge, they are employed for a much longer period; and at those of Leuck the patients sit, read, eat, and play at drafts upon floating boards for half the day. We cannot be supposed to advise such excess, but we agree with our author in considering that a moderate imitation of the practice of our neighbours might, under certain circumstances, be advantageously adopted. A considerable revolution of opinion has lately taken place among British physicians as to the salubrity of the climate of the south of France for their phthisical patients. The thesis of Dr Sinclair, published at this University in 1817, greatly contributed to this change. The reports of Drs Clarke and Carter corroborated the results of Dr Sinclair's experience, which is still farther confirmed by the statement of Dr Thomas, who, it appears, resided for several years at Thoulouse, itself the scene of innumerable deaths of emigrant invalids from this country.

Dr Thomas's little tract is offered to the public in a very modest and unassuming garb; and although we look with rather a jealous eye to works dated from fashionable watering-places, we are inclined to view the present in a much more favourable light. The author appears to regulate his practice on the principles of Broussais, whose doctrines, though announced by our French brethren as perfectly novel, have, in their principal points, been long acted upon in this country by our best practical physicians, and with serious advantage, especially in the chronic inflammatory affections of the abdominal viscera. The observations on the means of depleting the nervous system of these organs we look upon as the best part of the publication before us. The effects of the abstraction of blood from the hæmorrhoidal veins must necessarily extend to the system of the vena portarum; and, when judiciously combined with the blue pill, purgatives, the warm-bath and blisters to the region of the liver, there exists abundant proof of the efficacy of the practice in many obstinate affections of the viscera of the abdomen. We think, therefore, that Dr Thomas is entitled to our thanks for his good intentions; and we hope that his publication may contribute to make the practice which he advocates more generally known and adopted. His present residence abounds in fit objects for the trial; many of whom, from their acquaintance with foreign manners, must be familiar with the practice; and their example may induce others to lay aside that "*mauvaise honte*," which is likely to prove the most serious obstacle to the more general adoption of this useful modification of local blood-letting in this country.

IV.

The Elements of Medical Logic, illustrated by Practical Proofs and Examples, including a Statement of the Evidence respecting the Contagious Nature of the Yellow Fever. By Sir Gilbert Blane, Bart. Physician to the Prince Regent, &c. &c. &c. pp. 216. 8vo. London, 1819.

The title of this work seems highly appropriate and significant: logic being defined by Dr Watts to be "the art of using reason in our inquiries after truth, and of communicating it to others;" and physic being beset with fallacies, and false reasonings, much more than any other art or science, logical precision is more called for.

This is the first and only work in which an attempt has been made to lay the foundation of medical reasoning on the most profound principles of philosophy and metaphysics; and to those who may find this part dry and abstruse, it is amply made up by the variety and utility of the practical illustrations, which are throughout equally familiar and instructive. Much, indeed, has been done to open and enlarge the views of our brethren, particularly the younger part of them; and the whole liberal part of the profession must hail it with gratitude and applause. The style is uniformly clear, forcible, and elegant.

The light of logic, in its best form, that is, the logic of Bacon, not of Aristotle, has been here carried into the darkest corners of medical science, with plainness, perspicuity, and brevity; and we trust it will open new practical views to all intelligent members of the profession, by the originality and felicity with which the author has illustrated the subject.

The enumeration of the principles peculiar to life is new and striking, being the elements of those organic and functional distinctions upon which other systems have been built, and seems founded on a close and accurate analysis of the ultimate and simple powers which actuate these functions and organs, and through which they operate.

The arrangement of these powers, principles, faculties, or by whatever name they are called, argues a vigorous exercise of reason, under the guidance of chaste observation, and an invariable appeal to fact, and not to hypothesis, with the salutary cautions of avoiding what lies beyond the grasp of the human understanding. This arrangement of Sir Gilbert Blane establishes on a sure basis the hitherto loose and incoherent language of systematic writers, and may serve as a future text-

book for defining certain terms which have led to endless confusion and ambiguity.

The peculiar principles of life above alluded to are the Generative, Conservative, Temperative, Assimilative, Formative, Restorative, Motive, Sensitive, Sympathetic; to which the author seems inclined to add another, the *Determinative.* These are all defined and illustrated with great clearness and conciseness, and the object of the author in enumerating them is, to shew that animal life is of such a complicated structure, that it is hopeless to think of operating upon it *a priori* with practical effect; and he states the attempt of doing so, as one of the great causes of retarding and obstructing the progress of practical medicine. But though he states observation and legitimate induction from facts as the great principle of improvement, he is desirous of not disparaging the value of anatomy, physiology, and pathology, the advantages of which he amply and clearly enunciates.

The following passage will shew the author's estimate of the comparative merits of the dogmatical and empirical methods of cultivating medicine. At page 89, he says,

"It must be obvious to every reflecting mind, that those who have made themselves acquainted with the various organs and functions engaged in the animal economy, must have a great advantage in practice over the unlearned empiric, in discriminating the morbid affections from each other, and in varying accordingly the respective means of relief. For instance, a physiologist and anatomist, from his knowledge of the intimate nature of morbid affections, the difference of their seat, and other circumstances, is able to distinguish spasmodic from inflammatory pains; a distinction which would not readily occur to an uncultivated observer, but of the most vital importance in practice, for the remedies required for the relief and cure of a spasmodic pain in the stomach and bowels, demands a treatment not only different, but opposite to that which proceeds from inflammation. It is only *anatomical* and *physiological* science that can give a practitioner a clear vivid conception of these and other distinctions, essential to the safe and efficient treatment of diseases."

At page 93, "We have already more than once adverted to the profound wisdom displayed in the constitution of our mental faculties, whereby they are made responsive to the constitution of external nature, in the same manner as our senses, and that this is strikingly exemplified by the susceptibility of the human mind to durable associations and habits, from the frequent repetition of connected events, arising out of the constancy of the laws of nature. Unless these were indelibly imprinted or recorded, as it were, in the early stage of our existence, life could not be maintained; all those instincts by which we pursue what is salutary, and eschew what is noxious and dangerous, being founded on this principle. The avoid-

ing of fire, of precipices, the collision of hard and pointed bodies, may be quoted as examples of this. And what is called sagacity, in the adult stages of life, is a sort of approach to, or imitation of, this intuitive faculty; but, instead of being the immediate suggestion of nature, is founded on cultivation, which, by practice, learns to connect cause and effect, means and ends, an operation which, in well turned minds, is performed with promptitude and precision, by interpreting fairly the appearances of nature, and stripping them of those adventitious fallacies which mislead ordinary minds. In order to attain this, there are required an appropriate natural capacity, the good fortune of not being beset with prejudices in early life; an habitual exercise in the observation of nature; a candid and ingenuous disposition; an ardent love of truth; an exalted sense of duty; a large store of facts in a correct and tenacious memory; the power of combining, comparing, and discriminating these, by an intuitive glance in the moment of applying them to the practical end in view. This is what is understood by the term *tact* in English and French, and εὐστοχια, in Greek, being the faculty by which practical facts are decided on, and is performed by an instantaneous, silent, and almost unconscious calculation and induction, to be met with only in minds, at once happily constituted and highly cultivated."

And at page 96, he sums up the whole thus:

"From all that has been said, we ought to be, in some measure, qualified to come to a decision, on the celebrated question of the comparative merits of the empirical and dogmatical methods of cultivating physic. It seems pretty evident, that if either method were employed exclusively, or carried to an extreme, the art of physic would suffer, both in its efficiency, and its prospects of future improvement. It has clearly appeared, that, under such a complication of causes, influencing the operations of life, it would be utterly hopeless to decide any point purely and strictly *a priori*, and that it is absolutely necessary, that experience be called in as an aid and a test to the inferences of theory. On the other hand, a blind empiricism would be found deficient, without that discriminative judgment, founded on an acquaintance with the laws of life, and without those enlarged and correct views of general nature, by which the excess of credulity and scepticism is equally repressed. This question was much agitated in antiquity, and is most ingeniously, eloquently, and judiciously discussed by Celsus, in the preface to his valuable work. He evidently leans to the side of empiricism, which, in the very crude state of anatomy and physiology in that age, certainly argues his good sense; but he by no means explodes the study of the structure and functions of the body, as of no practical utility, and concludes with the following recommendation, or rather apology, for dogmatism: '*Ista naturæ rerum contemplatio, quamvis non faciat medicum, aptiorem tamen medicinæ reddit.*'"

"The conclusion, therefore, upon the whole, is, that those two methods ought not to be regarded as adversaries, but as allies; and

that good sense will consist in excluding neither, but in fairly appreciating what is due to each."

"In the course of the preceding discussions, it has appeared, that, from the dark and complicated nature of the animal economy, there is the utmost risk of error in drawing inferences *a priori*, and that crude and hasty hypothesis has been a source of much false reasoning, and therefore of dangerous error in its practical application. In the following enumeration, therefore, of the several obstacles which have obstructed and retarded the improvement of medicine, this stands foremost," &c.

The most leading principle of the work is to inculcate impressively on physiologists, pathologists, and practitioners, that the living frame is guided by laws of its own, distinct from those of inanimate matter. A large portion of the work is also taken up in pointing out the various sources of error, as might be expected in a treatise of which the title is the Elements of Medical Logic.

Besides the abuses of hypothetical reasoning arising out of the occasional perversion of physiology, he enumerates, as sources of error, the diversity observable in the constitutions of individuals; the difficulty of appreciating the efforts of nature, and in discriminating them from those of art; superstition; the ambiguity of language; the fallacy of testimony; preconceived opinions; and the excessive deference to authority. Some of these have been separately treated by the late Dr J. Gregory, Dr G. Fordyce, M. Cabanis, and Richerand; but the whole has never before been reduced into a body of doctrine; and it is none of the least recommendations of this work, that a vast extent of general knowledge has been brought to bear upon the subject of it.

But perhaps the most useful parts of the work are those in which practical illustrations are introduced. In the course of the author's remarks on the use of purgatives, so universally recommended by Dr Hamilton, after adverting to their indiscriminate use in fever, he says, concerning the unqualified use of them in Chorea St. Viti, page 110:

"The qualified adoption of this practice, I am so far from disputing, that I lately imitated it with success in the case of a young female from the East Indies, in which the vitiated quality, incredible quantity, and long continuance of alvine *sordes*, were such, as to bid defiance to all the principles of physiology and pathology to account for. But in a young English female, under my care, about the same time, for the same complaint, nothing preternatural being observed in the alvine discharges, after the first clearance of the intestines, she was successfully treated by the cold bath, and metallic tonics, chiefly the sulphate and oxyde of zinc, and the recovery was effected in a shorter time than in the *other* case. I found, that in St Thomas's

hospital, the like success attended the latter treatment of this disease. Opium, hyoscyamus, and leeches to the temples, were found good auxiliaries."

And in combating what Dr Hamilton says concerning the indifferent employment of all species of purgatives, Sir Gilbert thus illustrates the specific operation of certain medicines, page 111:

"What, for instance, can be more different than the operation of aloes acting as a mere eccoprotick on the muscular fibres of the intestines, and only in a particular portion of them, namely, the descending colon and rectum, and expelling only solid feces, from that of elaterium, of which half a grain, taken three or four times at the intervals of half an hour, evacuates immense quantities of serous fluid, exhibiting an example of the wonderful power of sympathy; for an impression made on the internal surface of the stomach, by a few particles of matter, conveys by magic, as it were, an impulse to the most remote extremities, rousing their absorbents to action; and in case of œdema there, awakening the sleeping energies of these vessels, which, like millions of pumps at work, transmit the morbid fluid to the intestines and urinary passages, affecting a detumescence of the hydropic limbs in the course of a few hours, and affording a striking illustration of the operation of sorbefacient medicines."

He in like manner compares the action of calomel, neutral salts, and other articles.

Let not the reader suppose that the writer of these remarks does not see the blemishes as well as beauties in the work under consideration. He entertains, for instance, great doubts of the propriety of arranging sleep with the *vis medicatrix naturæ*. It is true, the epithet *restorative* is strictly applicable to both; but they lie so wide in other points, that we should recommend the author to split them, if possible, into two heads. On the subject of sleep, however, the reader will find some new remarks and interesting anecdotes.

We are also of opinion that he has handled Dr Bancroft too roughly; for, though there be not an intemperate nor abusive expression in the whole, the strictures are too cutting and severe; and the author ought to have considered, that it is as cruel *to heap coals of fire on the head*, as to pierce or lacerate with a weapon. We hope the author will soften some of his expressions in another edition.

We are farther of opinion, that the author has affected too much brevity: *Brevis esse laboro obscurus fio.* Some of the subjects, that of Temperative, for instance, is so concise, that, considering the novelty and importance of it, more expansion of illustration seems to be required to render the ideas familiar to the bulk of readers. Lastly, we have rarely met with a work in which the press has been so carelessly corrected, for it abounds with typographical errors.

V.

A Treatise on Nervous Diseases. By JOHN COOKE, M. D. F. A. S. &c. In two volumes.—Vol. I. *On Apoplexy, including Apoplexia Hydrocephalica, or Water in the Head.* pp. 469. —Vol. II. Part I. *History and Method of Cure of the various Species of Palsy.* pp. 215. 8vo. London, 1820-21.

As readers and reviewers we have daily occasion to lament the excessive multiplication of books, which will soon make bibliographical learning to consist in a knowledge of the titles, not of the contents of books.

The patriotic author of the Code of Health and Longevity, in explaining the plan of his unequal work, has expressed fully our sentiments upon the best method of remedying the growing evil; and Dr Cooke has, in fact, put successfully into practice, in one subject, the worthy baronet's unjustly derided project of condensing human knowledge into an accessible form.

"Let a collection be made of every author, whether ancient or modern, who has written directly or indirectly regarding the points in question, and let this be thoroughly examined by intelligent men, and let every valuable fact or observation they contain be extracted out of them. The whole mass of materials being thus collected, let the whole be digested, and thus a work will be formed capable, undoubtedly, of improvement by future observations and new discoveries, but which would contain all the material information hitherto accumulated."

Now this is nearly what Dr Cooke has done in these volumes in regard to apoplexy and palsy. He has perused, with intelligence, the best authors, ancient and modern, who have treated of these affections, and he has collected, arranged, and communicated, in plain clear language, whatever he has found in them worthy of notice. It is impossible not to admire the modesty with which Dr Cooke speaks of his own exertions, claiming only the merit of being a careful compiler, and yet the task of compilation is by no means easy, and may evince more talent in the author than avowed efforts at originality.

Dr Cooke prefixes to his work an introductory account of the opinions of ancient and modern physiologists respecting the nature and use of the nervous system, which was read at the London College of Physicians as the Croonian lecture of the year 1819.

It would be useless to attempt an analysis of an analysis. Suffice it to say, that it is ably executed, and, if the whole school of modern German metaphysical physiologists be passed over, with the exception of Gall and Spurzheim, there is, perhaps, no reason for regret, when we consider how little such speculations contribute to the improvement of our professional skill. We fully subscribe to the concluding paragraph of our author.

"Physiologists have often erred by paying more attention to the investigation of the nature of the subjects of their inquiries than to that of the laws by which they are governed. Of the *ultimate nature or essence*, either of mind or matter, or of that compound which we call the nervous system, we know nothing; but of the laws by which it is governed, or rather the circumstances by which it is influenced, we know enough to enable us, in some degree at least, to understand the nature and causes, and to explain the phenomena of many of its morbid affections. Instead, therefore, of perplexing ourselves in vain efforts to comprehend what the great Author of nature has placed beyond our reach, and indulging in speculations which, however interesting, can lead to no satisfactory conclusion, let us turn our attention to a subject better suited to our powers, namely, the investigation of the diseases of the nervous system." Pp. 156, 157.

We may notice that, besides the selection and abridgment of published observations and opinions, we find some original experiments and ideas communicated to the author by Mr Brodie, Mr Carlisle, and others, and, in his preface, he expresses his anxiety to be favoured with such. In this respect we are of an opposite opinion; for however valuable such information may be in itself, we conceive it misplaced in such a work, in which condensation and impartiality are the very objects to be aimed at, while communications from esteemed friends require detail and impose obligations upon the compiler. There is more published matter than can be managed, and no person will consult such a work for novelties.

The remainder of the first volume is occupied with Apoplexy, and he treats in succession of its definitions and history, dissections, causes, distinctions, diagnosis, prognosis, and treatment. He then devotes separate chapters to Lethargy, Coma, Carus, Cataphora, &c. and to the Apoplexia Hydrocephalica or Hydrocephalus Internus.

Definitions are on all occasions difficult, and there are very few definitions of diseases which are satisfactory. Those given of apoplexy are no exception to this remark, although our author's is, perhaps, as good as we have any reason to expect. Every person knows what is understood by a stroke of apo-

plexy, but, when nosologists attempt to draw the line between it and affections in some respects resembling it, they fail. Two particulars seem to us essential to this malady, which are not sufficiently attended to; one is the suddenness of the invasion, and the other, that it does not proceed from certain causes primarily obstructing respiration, or from narcotic poisons. Precursory symptoms often indicate a disposition to apoplexy, but the stroke is commonly instantaneous, always sudden, and, until it take place, the apoplexy cannot be said to exist. Also in various forms of fever, especially cephalic typhus, in the last stage of hydrocephalus acutus, and in torpor from tumours or depressions of the skull, comprising the brain, the animal functions are completely or nearly suspended; but the disease is distinguished from apoplexy by the gradual abolition of the animal functions. Again, hanging, drowning, the mephitic gases, alcohol, and various narcotic poisons, induce states, having much resemblance to apoplexy, and sometimes even producing it; but still the affections are essentially different, extravasation of blood in the brain being as unusual an occurrence in any of these as its absence in the true apoplectic attack.

Dr Cooke seems to doubt the occurrence of sudden death from apoplexy. He is probably right that it more frequently proceeds from other causes. But we saw a man who died instantaneously, and, upon opening the head, there were great extravasations of blood filling the ventricles, and the arteries of the brain were generally diseased, that earthy degeneration of their coats, to which Scarpa ascribes aneurism, being visible in many places. We unluckily neglected the examination of other parts of the arterial system, satisfied with having discovered the cause of death. Many important pathological facts are thus lost from indolence and want of curiosity. It may, indeed, be doubted whether such a case is to be considered as true apoplexy. Death, indeed, arises from the bursting of a blood-vessel in the head, giving rise to sudden compression on the brain, just as the bursting of a vessel in the head of a healthy man by concussion has done; but, in genuine apoplexy, the extravasation of blood takes place, not from the rupture of a single considerable vessel, but from the giving way at once of all the vessels of a limited portion of the brain, generally of the medullary substance, which is broken down, and inseparably mixed with the effused blood.

Apoplexy is certainly more a disease of the wealthy than of the poor; but we have not found it so rare in hospital practice as Dr Cooke, who does not recollect a single instance of the occurrence of apoplexy in the London Hospital during an atten-

dance there of above twenty years. Cases occur not very unfrequently in that of Edinburgh, which cannot be ascribed to drinking spirits to excess.

In the chapter which treats of dissections, all the various appearances which have been observed are quoted; but, as Dr Cooke has properly stated, it may be doubted whether all the cases were really apoplexy. We regret that he has not gone farther, and attempted to distinguish between the genuine and spurious cases. Extravasation of blood in the brain is certainly the common phenomenon discovered in those who die of apoplexy. Cases have been quoted where either no sanguineous extravasation has been found, or there has been an effusion of serum, not of blood, or morbid appearances of a totally different nature. Where nothing morbid has been discovered, it does not always imply that no sanguineous extravasation existed, unless we are assured that the examination was very skilful and minute, for it is astonishing how very limited the change sometimes is; and in all other cases the history of the symptoms should be so accurate as to leave no doubt of the disease being really apoplexy, before we admit the appearances found after death to belong to that disease. We are convinced that, if this critical test be applied to the subject, we shall find that much of the confusion and contradiction now existing will be removed from the history of the appearances on dissection in apoplexy. As connected with this subject, we quote from Dr Cooke's volume on Palsy, page 76, a very curious report of the experience of a Parisian hospital physician, although we suspect that M. Serres has not been very exact in the diagnosis of the disease.

"Having thus, as he imagines, overturned the old doctrines respecting the causes and distinctions of apoplexy, M. Serres proceeds to point out the foundation of his new division of the disease.—On carefully observing and comparing the symptoms of apoplexy, he perceived that it chiefly appears in two different forms; the one simple, without palsy, the other always combined with the loss of motion of one side or the other. The first he calls *meningeal*, the second *cerebral* apoplexy; the first consisting in a diseased state of the meninges of the brain, the second is a diseased state of the brain itself. In the meningeal apoplexy, the brain is healthy, but the membranes are disordered, and frequently fluids of various kinds are effused. In the cerebral, the brain is altered in its structure, but no fluids are effused. Now M. Serres maintains, that hemiplegia is connected with the cerebral, but never with the meningeal apoplexy; that effusions are the effects of irritation of the meninges, or of ruptures of blood-vessels taking place in the course of apoplexies, but they never, by compressing the brain, give occasion to the dis-

ease.

"Out of one hundred cases of apoplexy which M. Serres had an opportunity of seeing, twenty-one, he says, were simple, and seventy-nine were complicated with palsy. In sixteen of the first description there was serous effusion in the ventricles and circumvolutions of the brain, separately or jointly; in one there was a sero-sanguineous effusion in the left ventricle; in two there was a similar effusion betwixt the tunica arachnoidea and the pia mater, upon the two hemispheres; and in the two others no effusion could be seen. In all these cases the brain was sound; but the meninges were impaired in different degrees. In those of the longest standing, in which the serous effusion was great, the pia mater was injected, the vessels greatly dilated, and the arachnoid thickened and opaque; in that case in which the ventricle alone was the seat of the sero-sanguineous effusion, the arachnoid was somewhat opaque in its extent, red in the interior of the ventricle, which was studded with numerous miliary granulations. In the two cases of effusion upon the hemispheres, the arachnoid of the lobes was sensibly inflamed; and where there was no effusion, this membrane was dry and thickened.—Does not this constant conformity, says M. Serres, betwixt the effusions and the alteration in the meninges, and the effusions, show that they are connected together? Do we not, in the different affections of the arachnoid and pia mater, see the source of the different effusions, and the reason of the absence of all moisture in the two last-mentioned cases? Ought not the irritation of the arachnoid of the ventricle, and of the portion covering the lobes, to be considered as having produced the sero-sanguineous effusion? A multitude of facts, says M. Serres, enable me to answer these questions in the affirmative; and I think I may take it as a principle, that in this species of apoplexy the meninges are primarily and principally affected, and that the different effusions are only the effects of these alterations. In the apoplexy connected with palsy, on the other hand, M. Serres observes, there are no serous or sero-sanguineous effusions in the natural cavities of the brain, or in the space betwixt the duplicatures: there is no alteration in the texture of the meninges; but the brain itself is materially altered in its structure, and appears to be exclusively the centre of activity of this apoplexy. Cavities are found in the substance of the lobes, the cerebral parts which surround them through their whole compass are inflamed, are of a reddish or yellowish colour, and hardened in proportion to the duration of the interval betwixt the formation of the cavity, and the death of the patient. The blood which fills these excavations is either coagulated, or half liquid, according as the cavities occupy the cortical or medullary substance, the corpora striata, the thalami nervorum opticorum, or the interior of the ventricles, into which, after having broken down their sides, it often penetrates. In the complicated apoplexy, M. Serres thinks the palsy is a necessary effect of the organic alteration of the brain; whilst, in the simple apoplexy, the brain being sound, motion remains uninjured. Hence, he says, when an apoplexy in its course shows no traces of palsy, may we not presume

that its seat is in the meninges, and that the brain is not the centre of activity of the disorder? And when, on the contrary, palsy becomes complicated with apoplexy in its course, that the encephalon and not the meninges is principally the seat of the irritation? Serous, sero-sanguineous, bloody, or purulent effusions, are the effects, M. Serres says, of irritation of the meninges, or the encephalon; or of arterial or venous ruptures which supervene in the course of apoplexy. If we properly interpret the facts, it appears easy to assign to these apoplexies their proper denominations. Hence, as is above mentioned, M. Serres calls the apoplexies without palsy *meningeal*, and those combined with paralytic affections *cerebral*. When apoplexy is combined with palsy, the latter affection, M. Serres thinks, is a necessary effect of an organic alteration in the brain, and he thinks it possible for us to know, during the life of the patient, what kind of apoplexy we have to combat. If it be simple apoplexy, the patient moving his limbs when excited, the disease, he says, has its seat in the meninges; if, on the contrary, it is accompanied with hemiplegia, the mouth being drawn to one side, the practitioner may conclude the apoplexy to be cerebral. For an account of other distinguishing symptoms, and the general description, and particular observations respecting these apoplexies, I must refer to the *Annuaire Medico-chirurgicale* for April 1820." pp. 76—81.

In regard to the causes of apoplexy, we agree entirely with Dr Cooke, that "the sudden apoplexy seems always more or less connected with an effusion of blood," and we think he refutes the opposite opinion of Dr Kirkland, which, after all, only amounts to asserting that apoplexy is not always the consequence of effusion. He also argues against the opinion of our most valued correspondent Dr Abercrombie, "that the doctrine of determination to the head is not supported by the principles of pathology, and does not accord with the phenomena of apoplexy," an opinion, in our judgment, more original than sound.

Dr Cooke's observations on the distinctions of apoplexy coincide with our ideas of the subject. Cullen's species of *traumatica*, *venenata*, *and hydrocephalica*, are distinct diseases, and his distinction of proper apoplexy into *sanguinia* and *serosa* is unfounded, and leads to erroneous practice.

"On the whole, if we admit the distinction of apoplexy into the sanguineous and serous, I think we must also admit that the serous apoplexy very seldom occurs; and I am of opinion, that, even in very old persons of leucophlegmatic habits, pale countenance, small pulse, and other marks of serous apoplexy, *if the disease come on suddenly*, it ought to be considered as probably arising from an effusion of blood within the cranium." p. 268.

We pass over the chapter on the Diagnosis and Prognosis of

apoplexy, and proceed to that on the Treatment, merely to note, that his observations are in every respect judicious, and that he has given a very candid statement of the controversy respecting the safety and utility of emetics, a controversy in which, as in many others, there was truth and error advanced on both sides. We agree with Dr Cooke in rejecting the use of internal stimulants and nervous remedies.

The chapter on Lethargy and Catalepsy contains no original observations; that on Hydrocephalus Internus is valuable, as making English readers better acquainted with the useful work of Dr Coindet of Geneva. We quote the following passages as containing original observations.

"In his (Dr Coindet's) history of the first variety of hydrencephalus he lays great stress on the peculiar kind of cry of children affected by it, and on certain appearances in the urine. The urine, he says, furnishes us with two appearances which are characteristic of the complaint; on the second of which he lays particular stress, even if it should have occurred only once, and while the nature of the malady was doubtful. The first of these appearances is a white, farinaceous, cretaceous deposit; the second is micaceous. He has seen these united, or changing from the one to the other. A more particular account of these appearances in the urine may be seen in Dr Coindet's memoir." pp. 402, 403.

"In forming the diagnosis, Dr Coindet, in addition to other distinguishing symptoms, lays considerable stress on what he calls the hydrencephalic moan or cry. Respiration, he says, becomes frequent, and is interrupted by a cry or plaintive sigh, which I call hydrencephalic, because it does not occur in any other disease, and powerfully aids the diagnosis. The appearances in the urine, and the insensibility of the stomach to the action of emetics above mentioned, Dr Coindet thinks characteristic of the disease." pp. 427, 428.

But with all these aids the diagnosis of the disease is often difficult, sometimes impossible. We have seen and treated many cases of children affected with the present epidemic fever, which could not be distinguished from hydrocephalus, until the period of convalescence, unless the exposure to contagion, and the adults in the family suffering at the same time from continued fever, may be considered as means of diagnosis, or, at least, of leading us to suspect that the disease might not be hydrocephalus; and, if the disease were to terminate in ventricular effusion, as we have seen it do in adults, then it would become hydrocephalus internus indeed, although arising from contagion.

The first part of Dr Cooke's second volume treats of Palsy,

and he admits the common divisions into Hemiplegy, Paraplegy, and Partial Palsy. This division is perfectly well founded in fact, and yet it sometimes misleads superficial observers as to the cause of the affection in particular cases. It is natural to refer hemiplegy to an affection of the brain, paraplegy to one of the spine, and partial palsy to the compression of a particular nerve, and yet we sometimes find that the most partial palsies have their origin in the brain. Of this we are assured by two facts, the commencement of complete hemiplegia in very partial palsy, of a finger, or an eye-lid, for example, and a similar local palsy remaining after hemiplegia from apoplexy. We lately examined the body of a young man, who was affected with paraplegia, preceded by numbness and debility of the legs, and terminated by the cessation of the muscular action of respiration, and we found the whole membrane of the cerebellum thickened and diseased, and the cerebellum itself almost fluid, yet the father, who stood by, and was exceedingly inquisitive about the cause of death, would scarcely allow us to open the head, as he was sure it was perfectly sound, for his son never had a pain in it all his life.

Dr Cooke, by his definition of palsy, includes loss of sensation as well as loss of muscular power. These are frequently combined in various degrees, but they also sometimes exist separately, and especially the loss of sensation in the individual organs of sense, except that of touch, is in general independent of any affections of the muscles. There are therefore grounds for the distinction of partial palsies into those of sense and of motion. But the palsy affecting the muscles seems also to be of two kinds, one depending upon an affection of the muscular fibre itself, which does not or cannot obey the stimulus of volition, or other stimuli applied to it, and one where the nervous energy is deficient or impeded in its progress. Of the former kind we have examples in cases of extreme debility and torpor, and of the latter in the partial palsy which remains after apoplexy. The due action of the involuntary muscles is so essential to life, that they can scarcely be affected with paralysis without the most serious consequences. Syncope may be considered a palsy of the heart, and, if it be not transient, sudden death is the consequence. Are the absorbents, the exhalents, or secreting vessels, subject to palsy? By what symptoms are such affections denoted?

We cannot follow our author through his histories of paraplegia, hemiplegia, and partial palsies. When speaking of the causes he gives an abstract of M. Serres's peculiar opinion, *which, in our opinion*, he successfully refutes.

"Pressure on the brain has for many years past been considered by physiologists as the chief, if not the sole cause, both of apoplexy and of hemiplegia; but M. Serres, a physician of eminence, in a memoir lately published by him in the Annuaire Medico-chirurgicale, denies that pressure, in any case, produces either of those diseases." pp. 69, 70.

"He has shown that blood has been effused in various situations within the cranium, without apoplexy; but he cannot hence fairly conclude that effusion never produces the disease. Since he admits that there is effusion in the meningeal apoplexy, how can he prove, even allowing it to be the consequence of what he calls irritation of the meninges, that the irritation, and not the effusion, is the immediate exciting cause of the disease? If compression by fluids were the cause of apoplexy, M. Serres says there could be no apoplexy without effusion; but the want of logical precision here is evident, unless we grant, what I believe few physiologists would admit, that compression from fluids is the *only* cause of the disease. That some degree of pressure may be made on the brain without producing either coma or apoplexy, may be conceded, as proved by M. Serres's experiments; but it by no means follows that a different or greater pressure would not produce these diseases; indeed, both observation and experiment decidedly show, that compression does sometimes, according to its degree, give occasion, first to somnolency, and then to complete apoplexy. It is a fact perfectly well known, that after the operation of the trepan, pressure on the part deprived of cranium produces these effects; and innumerable instances might be adduced in which compression by depressed bone after accidents, has given occasion to coma and apoplexy.

"These observations are confirmed by direct experiments, which lead to positive conclusions; not to negative conclusions, like those of M. Serres. M. Portal trepanned the cranium of a dog; he compressed the dura mater and the brain, sometimes with his fingers, and sometimes with a bouchon of linen or of wood, and sometimes by water or mercury poured through the cavity made in the cranium. A funnel was adapted to the opening of the cranium, which was filled with water or mercury, so as to produce a graduated compression, more or less strong, upon the brain. In whatever way the experiment was made, it instantly produced the following effects: The animal ceased to bark; if the compression was increased, it became agitated by strong convulsions; if still further increased, a profound sleep took place, the convulsions ceased, and the respiration became stertorous. If the pressure was diminished, the breathing became more free, and the convulsions returned." pp. 84—86.

In the chapters on the Diagnosis, Prognosis, and Dissections, the account of the observations of MM. Rochoux and Riobe is particularly interesting.

Dr Cooke is an advocate for blood-letting in hemiplegia con-

nected with apoplexy, and in this we have practical reasons for agreeing with him. General depletion with local stimulation seems to be the most successful method of cure. It is interesting to observe the gradual return of power to a palsied limb. Muscle after muscle becomes obedient to the will; the recovery always beginning at the trunk, and being slowest in the most remote part. It would seem as if the will were too feeble to penetrate beyond a certain length, but became gradually stronger as some obstacle to its progress was removed. In a very interesting case lately under our care, the patient recovered power over his affected arm, not regularly and progressively, but, as it were, suddenly, and by starts, first for a short time, and then permanently. The sudden and temporary amendments were perceived either immediately after the employment of galvanism or on awakening from sleep. We have observed something similar in amaurosis. A patient, after being galvanized, declared he saw objects for the first time for many months; but he soon relapsed into total darkness, from which galvanism lost the power of restoring even for a time.

Dr Cooke alludes to the use of moxa, but we think he has mistaken its *modus operandi*, which is certainly not by producing a discharge from the part to which it is applied, but by its sudden and intense local stimulus. One of our paralytic patients immediately derived more benefit from it than from any thing he had tried. A patient, long confined to bed by sciatica, on the morning after its application was up and assisting the other patients in the ward; but the eschar formed by moxa does not separate for many days, nor is the discharge ever considerable.

We have tried the Rhus toxicodendron, recommended by Dr Alderson. We thought it useful in keeping the bowels easy, and in one case, that tingling sensation in the limb, which seems the first step towards recovery, was induced; but the amendment proceeded no farther, and the man ever afterwards regretted that his limb had not been allowed to remain in its former state of complete insensibility.

Our experience of the nux vomica is not great. In one case, the powder was given in large doses. It kept the bowels easy, but seemed to have no other effect. It was introduced into practice by Dr Fouquier of Paris on theoretical grounds, from observing, that when given to poison animals, it exerted a specific power over the muscles.

"M. Fouquier was in the habit of giving it in the form of powder and extract, beginning with small doses, and gradually increasing them as far as fifty grains in a day. In a short time after it has been

taken, spasmodic contractions of the muscles, he says, in a greater or less degree, or more or less general, are produced. Among the unpleasant effects of the nux vomica, especially in large doses, delirium, a sense of heat and oppression, and anxiety, may be mentioned. Sometimes general tetanus, with loss of speech and the power of deglutition, accompanied with difficulty of respiration, pulsation of the heart, and dysuria, have been experienced; whilst the good effects of this remedy are manifested by a gradual return of power in the paralytic parts." pp. 167, 168.

"M. Fouquier, in a communication to Mr Rose, speaks of the nux vomica in palsy in very strong terms of commendation; and with respect to the form of administering the medicine, observes, that since the specific effects of the nux vomica have been known to him, he has preferred the alcoholic extract in the form of pills, both to the aqueous extract and to the substance in powder; that the effects of the former are more powerful than those of either of the other preparations; and that he begins with one grain twice a day, gradually increasing the dose. He goes on to describe the particular effects of the remedy, which are such as are noticed in the preceding cases. He then says, if too large a dose is given, its effects discover themselves on the healthy members; to obtain a cure it must be administered for a considerable time, and the dose must be so regulated that sensible effects may be daily produced by it." pp. 173, 174.

Dr Cooke lastly describes the various methods proposed for treating the local palsies, especially amaurosis, and he concludes with a notice of the *paralysis agitans* described by Mr Parkinson. There are many varieties of paralytic tremors or convulsions. We saw one obstinate case instantaneously induced by drinking cold water when the body was heated. Another very remarkable instance appeared in a patient on attempting to sit up after continued fever. When lying, she complained of weakness of back, but when sitting, could not, by the greatest efforts, restrain her legs from shaking, and when attempting to walk, staggered, as if affected with St Vitus's dance. She recovered perfectly, from sinapisms applied to the spine.

We need not repeat our commendations of Dr Cooke's undertaking; and we trust that he will subjoin to the whole very copious indexes of the names of authors, with the titles of the works referred to, and of the subjects mentioned.

VI.

A Treatise on the Plague, designed to prove it Contagious, from facts, collected during the Author's residence in Malta, when visited by that Malady in 1813; *with Observations* on its Pre-

vention, Character, and Treatment; to which is annexed an Appendix, containing Minutes of the Author's Evidence, given before the Contagion Committee of the House of Commons, accompanied by their Report. By Sir Arthur Brooke Faulkner, M. D., &c. London, 1820, pp. 277, and 43.

We lately delivered our opinion concerning the contagiousness of the plague in general. (Vol. XVI. p. 109.) Sir A. Brooke Faulkner, M. D. one of the witnesses examined before the House of Commons, has, in the volume before us, resumed the subject. For this task he is well qualified, having resided in Malta during the last time that island was infected, as physician to the forces, and having had a great share in directing and carrying into effect the measures against it.

His work embraces two principal parts; a history of the origin, progress, and decline of the plague at Malta, as observed by our author, and general arguments and inductions, tending to establish his opinion that the plague is contagious.

The medical topography of Malta occupies the first chapter; the third and fourth contain the general history of the progress of the disease; and the seventh its medical history. While the second treats of the chief causes which have led to error on the question of contagion; the fifth inquires into the insufficiency of such causes, as filth, latent change of the air, or marsh miasmata, or any other cause than contagion, to account for the production and progress of plague; and the sixth is directed to the prevention of the plague. We have no intention of following our author through his details. We have never seen the plague, and the subject, as a general question, has been repeatedly before us. We can express generally our obligations to our author for the valuable documents he has furnished us with, and to express our full coincidence with the conclusions he has drawn from them.

In page 42, our author attempts to settle the meaning of the words infection and contagion, from their etymologies; but in his advertisement he tells that he has used them indiscriminately. This should have been avoided, but not in the way commonly attempted, for we would reject the word *infection* as opposed to contagion entirely. It has been used in so many different senses, and so vaguely by authors, that no definition can give it a precise meaning. Contagion, on the contrary, is universally understood, and almost exactly in the same sense. It is a property possessed by certain diseases, of propagating themselves, by exciting a similar disease by immediate or mediate contact, in other individuals disposed to be acted upon by it. Take

small-pox as an example. It is capable of being propagated by direct contact; by matter conveyed on the point of a lancet, or on the clothes of a nurse; and by the atmosphere to a certain distance; but in all these ways it acts only on susceptible subjects. Some persons never take small-pox, however exposed to its contagion, and those who have previously had it, generally are rendered unsusceptible of a second attack.

The third chapter alone, in our opinion, sets the question of the contagiousness of the plague at rest.

"I propose," says our author, "to comprise the arguments and facts collected during my services in Malta, in support of the contagious property of the plague, under the following divisions:

"I. The extension of the disease to Valetta from the infected vessel, San Nicolo.

"II. Its extension to the individuals who were infected by communicating with the first case in Valetta, and to the Augustin convent.

"III. And its extension to certain of the casals, and to the island of Gozo." pp. 42—44.

Malta had not been visited by the plague for *one hundred and thirty-seven* years, a fact which, of itself, establishes, beyond a doubt, that the climate had no tendency to generate the disease. On the 28th of March 1813, the San Nicolo arrived from Alexandria, where the plague was raging when the vessel sailed. Part of the crew died on the voyage. On arrival, this vessel made the regular signal, that the plague was on board. In a day or two after being received into the Lazaretto the captain and his servant sickened and died. On the 10th of April, Dr Faulkner addressed a letter to the governor, expressing his fears that the plague might be communicated from the vessel. On the 14th of April, a girl was taken ill with symptoms of fever, and died on the 19th. Her mother was seized on the 1st of May, her father, Salvatore Borg, on the 4th, and both perished; a visitor, Maria Agius, also died on the 6th; a girl who lived in habits of intimacy with Maria Agius was seized on the 8th; Salvatore Borg's father also on the 8th; another child of Salvatore Borg's on the 14th, and on the 17th, a man who had been eleven days in observation on account of his communicating with Maria Agius.

"In the above cited instances, the contagion has been traced in a direct line a month and twenty days subsequent to the first entrance of the San Nicolo, and above a month after Borg's first infected child was taken ill in Valetta; added to which, it is proved by official statements, that up to this period, there were no other indivi-

duals, excepting those already detailed, infected in any part of Malta." p. 66.

"About this time the contagion began to diverge in so many directions, in consequence of the unrestrained intercourse of the people, that it would have been extremely difficult, if not impracticable, to follow up the direct line of contaminations, even if the investigation had been earnestly pursued, which I have reason to believe was not the fact." p. 65.

The progress of the vicissitudes of temperature and the deaths in each month were as follows.

	Highest.	Lowest.	Deaths.
April,	71	50	1
May,	80	62	110
June,	84	69	800
July,	86	70	1608
August,	86	70	1043
September,	83	65½	674
October,	83	61	207
November,	71½	58	50
December,	70	46	unknown.

These tables are not very minutely exact, but they are sufficient to shew the gradual increase and decrease of the mortality, and its relation to the temperature.

"A numerous host of proofs to shew that the decrease of the disorder was wholly independent of the state of the atmosphere as to temperature, is derived from its arrestation in several of the casals by restrictive regulations during the period of its widest dissemination in other places. It was, for example, exterminated in casal Lia early in June,—casals Atard, Gudia, Zeitun, Tarxien, Micabiba, and Zurich, in July,—and in Zabbar, Luca, and Paola, in the month of August. It was also stopped in Cospicua, a populous town within the fortifications, in July; and in Vittoriosa, another of the same description, in August. The following extract from the Government Journal of Malta supplies definitive confirmation of all that has been advanced in reference to this subject.—'All' apparir di questa infermita fummo assicurati che il caldo la estingueva, che il decrescir della luna ne sminuiva la forza, che le ruggiade della notte la spegnevano, e che alcuni particolari giorni d'estate la faceano tutto in un colpo svanire. Pero tutte queste cose che si verificarono in Alessandria, in Smirna ed in Aleppo *non furono quasi di alcun effetto in Malta*; ne il caldo la estinse, ne il decrescer della luna porto alcun sensibile giovamento, ne il venir di alcuni giorni particolari la feci svanire.' Finally; when to the whole of this body of facts we add the rapid diminution in the number of attacks following almost immediately upon the rigid enforcement of Police restrictions in the several towns formerly mentioned, and at a period when the contagion had attained to its acme of diffusibility, no doubt, I think, can remain in any

mind which is open to conviction, that it was to these measures alone the sudden cessation of the disease in those places was immediately to be attributed, and not to any alteration in the atmospheric influence." pp. 176, 177.

The history of the introduction of the plague into the casals or villages around Malta is particularly interesting, but we cannot enter into the details.

Next to the proof of contagiousness derived from the communication of the disease appearing to be dependant upon intercourse, the most convincing is the security derived from seclusion. Our author gives a very striking example of this, in regard to the Augustin convent.

"This convent, situated in a peculiarly healthful, spacious, and airy part of Valetta, had, from the very beginning, observed the greatest caution to shun communication with the public. It was at length, however, infected, in consequence of one of the servants, who was caterer by occupation, having, in disobedience of public orders, gone into a very contaminated part of the town, called the Manderaggio, and purchased infected clothes. Shortly after his return, he made confession of the circumstance, when one of the brotherhood belonging to this convent, out of compassion, immediately volunteered to attend him, placing himself, at the same time, in strict quarantine with the patient. Both nurse and patient immediately fell victims to the disease, but *no other individual under the same roof was ever assailed.*" pp. 68, 69.

"In farther proof of the protection afforded by seclusion, an historian (Cavallino) of the former plague, which visited Malta in 1675, observes, that all public buildings, which cautiously shunned intercourse with the community, enjoyed a perfect exemption from the contagion, among which were the prisons, monasteries, and the cavalieri, or inns, occupied by the Knights of the Order, besides all the vessels in the harbour. And in the late plague, the Hospital of Saint John of Jerusalem, the prison, and several public offices and private houses, which early adopted, and steadily kept up, a rigid system of insulation, were no less fortunate." pp. 71, 72.

We shall probably take another opportunity of considering the quarantine laws; and the excellent communications for which we were formerly indebted to Sir A. Brooke Faulkner (Vol. X. p. 137,) supersedes the necessity of entering upon the medical history of the plague at Malta, although much enlarged and improved in the present volume.

VII.

Cases of a Serious Morbid Affection, chiefly occurring after Delivery, Miscarriage, &c. from various causes of Irritation and Exhaustion; and of a Similar Affection, unconnected with the Puerperal State. By MARSHALL HALL, M. D. F. R. S. E. &c. 8vo. pp. 62. London, 1820.

THE industry and zeal with which Dr Hall cultivates his profession are highly commendable; but we fear his ideas of diagnosis are too refined, not merely for routine, but even for reflecting practitioners. We have perused this little work with very great attention, and we cannot say that we have been able to acquire a very distinct idea of the individual character of the malady it is intended to delineate. We are doubtful whether we have often seen it in practice, or rather whether many cases, to which we gave other names, be not referable to it. This difficulty is the more to be lamented, since it is of so much importance in a practical point of view. Dr Hall declares his belief,

"That the morbid affection in question constitutes a great proportion among puerperal cases, and a great majority among the fatal ones, and, of these fatal cases, many are daily rendered so by a mistaken use of the lancet."

Before we proceed farther, it will assist the conception of the reader to inform him, that the same affection occurs independently of the puerperal state, and has formerly been described by Dr Hall, under the title of *Mimosis inquieta*. From the aphoristic style in which Dr Hall writes, it is not easy to convey his meaning in fewer words: we must, therefore, to do him justice, transcribe his whole description:

"XXI. This affection appears principally under the following forms; 1. the acute; 2. the more continued; 3. with general symptoms; 4. with some predominant local affection; 5. as the effect, chiefly, of intestinal irritation,—or 6. of hæmorrhagy. The greater number of cases do not, however, admit of being referred to any one of these divisions distinctly or exclusively, but assume a mixed character.

"XXII. When this affection has come on in an acute form, the first symptom has usually been severe and long continued rigor, succeeded by great heat of surface, great frequency of pulse, and some serious affection of the head, or of the abdomen. This was observed in cases I. II. IV. VIII. IX. X. XIX. and it is probable that

rigor occurred in some of the other cases, although unnoticed in the reports; in these there were the other symptoms noticed above.

"XXIII. When, on the contrary, the attack of this affection is slower and more insidious, the rigor is less observed, the heat of surface perhaps absent, and there is throbbing pain of the head, with vertigo in the erect posture, or fluttering and palpitation of the heart, or oppressed, hurried, and sighing breathing, or irritability of the stomach and bowels, &c. as observed in cases V. XV. XVI. XVII. XX. XXI.

"XXIV. Much will depend on the constitution of the patient, and on the cause of the affection, especially the latter. Great intestinal irritation is apt to induce a sudden attack, with rigor and much febrile heat. Serious uterine hæmorrhagy will also produce these effects, as observed in case XIX., in which, however, as is usual, these two causes most probably co-operated. The consequences of profuse hæmorrhagy are well known. The effects of continued irritation of the stomach and bowels, and of protracted and reiterated uterine hæmorrhagy, menorrhagia, or undue lactation, are insidious and protracted; § XXIII.

"XXV. The course of this affection is generally influenced, in like manner, by the constitution, and the cause, and usually varies with the form of the attack. There are, in many cases, frequent changes,—attacks of alarming symptoms,—urgent messages,—sense and fear of impending dissolution, &c.

"XXVI. The symptoms vary in degree, form, and assemblage, in every case. They refer themselves in general to the HEAD, HEART, CHEST, STOMACH, BOWELS, UTERUS, THE MUSCULAR SYSTEM, and to different SEATS OF PAIN. In the following account of the symptoms, I shall briefly enumerate, under each of these heads, the various affections which are apt to occur in this complaint, referring the reader to the cases in the appendix for exemplification, and for the varied manner, catenation, and connection, in which they present themselves to the observation of the physician.

"XXVII. I shall first premise that, of the two principal causes of this affection, Intestinal Irritation, and Uterine Hæmorrhagy, each produces symptoms in some degree peculiar to itself. The former, especially, is the frequent cause of pain of the head, side, iliac region, loins, or some part of the abdomen; the latter, of faintishness, the sense of want of air, gasping, jactitation, sinking, &c. The varied effects of intestinal irritation are amply detailed by the author, in a late essay on the Mimoses. The effects of hæmorrhagy are exemplified in Cases XVI. XVII. But, besides that these two causes generally co-exist, and co-operate, it is remarkable how similar, in general, are their effects. They each seem liable to attack ALL the organs and functions of the body, conjointly or separately. It is, however, in general, the circumstance of EXHAUSTION, which adds REAL DANGER to the otherwise URGENT but LESS SERIOUS symptoms of IRRITATION.

"XXVIII. The symptoms which may be referred to the HEAD are

the following:—Severe pain; beating and throbbing; rushing, or cracking noises; vertigo, or turning round of the room, especially on raising the head or assuming the erect position; intolerance of light, and of sound; wakefulness; starting during sleep; awaking hurried and alarmed, with faintness, palpitation, feeling of sinking, of impending dissolution, &c.; being overcome by noise, disturbance, or thinking even, and delirium.

"XXIX. The HEART is, in different cases, affected with palpitation, fluttering, irregular and feeble action; there are beating and throbbing of the carotids, and sometimes even of the abdominal aorta; great rapidity, and sometimes irregularity of the PULSE; faintishness or fainting, urgent demand for the smelling-bottle, fresh air, fanning, bathing of the temples; feeling of impending dissolution; incapability of bearing the erect position, and sometimes early fainting from the use of the lancet.

"XXX. The RESPIRATION is affected, in different cases, with panting, hurry, sighing, great heaving, gasping, blowing, moaning, catching, &c. and, as has been stated, with urgent demand for fresh air. There is sometimes a sense of great and alarming oppression about the CHEST.

"XXXI. There is, in some cases, an IRRITATIVE COUGH,—in violent fits,—or in the form of continual hacking; this cough appears to originate in the larynx or trachea.

"XXXII. The STOMACH is liable to become affected with irritability, sickness, retching, vomiting, hiccough, and eructation; the BOWELS with constipation, or diarrhœa, pain, flatus, distention, &c.

"XXXIII. There are very frequently urgent restlessness, tossing about, and jactitation. In some cases, as in Case XXII., various SPASMODIC AFFECTIONS have occurred.

"XXXIV. The SEATS OF PAIN are usually the head, the side, the iliac region, the loins, the region of the uterus, and the abdomen generally. The pain of the iliac and uterine region, and of the abdomen, is often attended with much tenderness.

"XXXV. Amongst other symptoms should be mentioned the faintishness, the gasping, the feeling of dissolution, &c. of the patient, which sometimes occur after the first and even a moderate bleeding; see Cases III. IV. XIII. XXIII. XXV.; in some instances the patient has expressed the utmost dread of being bled, from the feeling of aggravation of her suffering, or of dissolution induced by it."

We confess we have been greatly disappointed by the chapter on the Diagnosis, as the only additional circumstance indicated by which we may distinguish this affection,—which, in its various forms, is apt to be mistaken, and, what is of momentous consequence, *mistreated*, for inflammatory diseases of the nobler viscera, especially for puerperal phrenitis and puerperal fever,—are the bad effects of blood-lettting and the good effects of glysters.

The result of the whole is, that there appear to occur, especially in the puerperal state, cases resembling inflammatory affections, arising from the combined action of irritation and exhaustion, which do not bear bold practice, but must be treated with caution and gentle means. Of this we are very well convinced; but we see no grounds for considering such cases as a peculiar affection, entitled to have a name as an individual existence in a system of nosology. It is rather a state of the system which is apt to occur in every disease, from mismanagement or untoward circumstances; and, if we are not very much mistaken, some of Dr Hall's cases are of that description. Every practitioner must recollect having met with cases, which he considered inflammations, accompanied with great restlessness, which did not bear blood-letting or stimuli, and in which the *medecine expectante* of the French was the most successful; but it does not follow that these affections were not inflammations. On the contrary, we recollect cases, where the restlessness, quickness of pulse, and heat, increased after blood-letting; and yet, on dissection, the existence of great inflammation was put out of doubt. The reason of this peculiar idiosyncrasy in some patients is not very evident; but we may remark, that we have observed that cases of epidemic fever, which have been treated by copious blood-letting, are exceedingly sensible to all stimuli. If their exhaustion seem to require wine, it must be given with the greatest caution. An ounce or two will excite them; even a slight improvement in diet will cause a relapse; although similar cases, not bled, would bear, nay require, the free administration of wine and nourishment. Exhaustion, especially from excessive loss of blood, is accompanied by distressing irritability, and the nicety of practice in inflammatory affections consists in regulating the quantity to be taken away, so as to conquer the disease, without inducing this state.

Dr Hall subjoins 33 cases; which are classed, as terminating favourably, 18; fatally, 4; fatal effects of blood-letting, 3; and independently of a puerperal state, 4; to which we must refer the reader, as neither a selection nor an abstract would do justice to the author, or be satisfactory to our readers.

PART III.

MEDICAL INTELLIGENCE.

Report of the Royal London and Westminster Infirmary for the Treatment of Cutaneous Diseases, read by Dr EMERSON *at the General Annual Meeting, January* 22, 1821.

ON the opening of this Infirmary, which owes its existence to your liberality, on the 1st January 1820, the Committee invested with authority to superintend and conduct its affairs, submitted an "Address to the Public," in which the necessity, and the objects of the Institution, were concisely stated. The causes of the prevalence, as well as of the inveterate nature of Cutaneous Diseases, particularly among the lower classes of society, in large and populous towns, are there briefly enumerated. Without trespassing on your valuable time in an unnecessary repetition of the facts and arguments, brought forward in that address, in support of the *utility* of this Institution, we shall content ourselves on the present occasion, in simply adverting to the advantages experienced by the community at large from similar establishments; such as fever hospitals, lunatic asylums, lying-in hospitals, eye infirmaries, &c.; from which also have emanated some of the principal improvements in the medical art, by affording its members, practitioners as well as students, those peculiar opportunities of investigating particular genera of disease, which cannot be expected from hospitals, open to the reception of every human infirmity. The nature of cutaneous diseases is still involved in much obscurity; and it is not, perhaps, too much to assert, that this circumstance may be chiefly attributed to the long neglect of establishing an infirmary for their exclusive investigation and treatment. The principal sources of affections of the skin are the neglect of personal cleanliness, and the want of the proper means of cure; particularly of charitable establishments directed solely to the latter desirable object. A considerable proportion of these diseases, it is well known, are of the most obstinate and most disgusting nature; they

often resist for a series of years, sometimes even through life, every attempt at their removal. Others, again, of a less obdurate complexion, but equally offensive to the beholder, and vexatious to the patient, yield speedily (or at least in a comparatively short period) to the use of the sulphureous vapour bath; a mode of cure now for the *first* time *publicly* introduced into this country, and which promises the most essential benefits. Of the former class of cutaneous diseases many instances have already fallen under the care of the medical officers of this institution; some of which have been, to all appearance, effectually cured, and the greater part of them more or less relieved by the above means. Of the second class a great variety of cases have been treated at this infirmary with marked success. Without entering into any unnecessary detail of individual cases, which the nature of this report will not permit, the committee feel great pleasure in stating, that the number of patients admitted from 1st January 1820 to 1st January 1821 is 245. This number appears small compared with that of similar institutions abroad; a circumstance indicative, in our opinion, of the less prevalence of cutaneous affections in this metropolis. The eminent relief and comfort experienced by many indigent families in various parts of this extensive metropolis from the use of the medicated bath, and medicines supplied to them gratis, is the most convincing and satisfactory proof of the utility of this institution. One among many remarkable and instructive cases the medical officers wish, in a general way, to bring under your notice. It was an inveterate instance of the pompholyx, which had resisted the various treatments of several hospitals. It occurred in a young girl; her sufferings were not to be described; but by the use of the bath and some internal medicines she now enjoys a comparative degree of health and comfort; and her tender age renders it extremely probable that the cure may be as permanent as it has been satisfactory. Short as the period has been from its commencement to the present time, opportunities have presented themselves to its professional members of witnessing nearly all the kinds of cutaneous affections. The medical officers are desirous of assuring you, that the strictest attention shall be paid to ensure to the public the full benefit of this institution; and in due time they confidently look forward to lay before it the result of their experience in the treatment of cutaneous diseases. From a faithful record of these highly interesting and instructive histories of diseases, yet little understood, the public will, it is hoped, appreciate the advantages it derives from an establishment, dedicated to the exclusive treatment of cutaneous diseases. The opportunities thus afforded to medical students and practitioners in general of witnessing the nature and treatment of this irritating and formidable class of diseases are daily increasing. The sanction and support given to this institution by the first medical characters of the metropolis are highly flattering to the committee, and strongly expressive of the expectations the public may reasonably entertain of its beneficial effects to society at large. As its funds increase, so doubtless will the means of relief be pro-

portionately extended. The committee, therefore, actuated by the desire of contributing to the happiness of society, by relieving its members, as far as in their power, from the tormenting influence of cutaneous affections; impressed with the advantages already obtained from this institution; and aware that public establishments cannot flourish by the exertions of a few individuals, appeal with confidence to the liberality of the public to give it that encouraging support, of the pretensions to which it is in all cases the best judge.

Royal College of Surgeons in London.—Court of Examiners.

CANDIDATES to be examined for the diploma will be required to produce certificates:—

1. Of having been engaged five years, at least, in the acquisition of professional knowledge.

2. Of having regularly attended two courses, at least, of anatomical lectures; and also, one or more courses of chirurgical lectures; in London, Dublin, Edinburgh, or Glasgow.

3. Of having performed two or more courses of dissection.

4. Of having regularly attended, during the term of, at least, one year, the chirurgical practice of one of the following hospitals, viz. St Bartholomew's, St Thomas', the Westminster, Guy's, St George's, the London, or the Middlesex, in London;—or the Richmond, or Steevens', in Dublin;—or the Royal Infirmary in Edinburgh;—or the Royal Infirmary in Glasgow.

5. And of being twenty-two years of age.

Candidates under the following circumstances, and of the proper age, § 5, are also admissible to examination for the diploma.

Members of any of the legally constituted Colleges of Surgeons in the united kingdom.

Graduates in medicine of any of the universities of the united kingdom, who shall have performed two or more courses of dissection, and who shall have regularly attended, during the term of, at least, one year, the chirurgical practice of one of the above specified hospitals.

These rules are also required to be observed by Candidates to be examined for the Testimonial of Qualification of Principal Surgeon in any service.

Candidates under extraordinary circumstances of professional education, not literally corresponding with the foregoing rules, but deemed by the Court, in effect, equivalent thereto, will be admitted to examination.

Candidates are to observe, that Tickets of Admission only will not be received as certificates or evidence of attendance.

Should doubt of the correctness of any required certificate of age, or professional education, at any time arise, such certificate will be retained in the College for investigation, during the pleasure of the Court; and should a candidate for examination be proved to have practised, or attempted, upon the Court, imposition relating to any *certificate or otherwise*, he will be refused examination for such pe-

riod as the Court, according to the circumstances of the case, may judge proper.

By order, EDMUND BELFOUR, *Secretary.*

Cases of Amenorrhœa and Vicarious Menstruations. By JOHN ASTBURY, *M. D. Borlaston.*

I HAVE attended, at different times, a young lady, from the age of 18 to 23, who never had the catamenia more than once in a year, sometimes once in two years. Steel, in various forms, tonics, change of air, nutritious diet, different emmenagogues, have been tried for a great length of time, without any good effect. At the age of 23, she married to a healthy-looking young man; she has now been married near four years, and has never had the catamenia but once during that period; she has not been pregnant. There is not the least reason to suppose any organic defect in the parts, for when she has had the catamenia, the discharge has been natural, and in sufficient quantity. The defect seems to be in the organs of digestion. She has always been very thin and feeble, her appetite poor, and her digestion weak; her constitution only prepares blood sufficient to feebly support life, without being sufficiently strong to create an overflow.

I have attended another young lady, about 20 years of age, who may be said to have menstruated by the hæmorrhoidal vessels for more than two years, as she had no discharge, during that period, per vaginam. She has had a periodical discharge by the hæmorrhoidal vessels, not regularly monthly, but at the distance of sometimes two months, sometimes three. When she went to stool she has discharged half a pint of blood at a time, which brought on very considerable debility; her appetite and general health, in other respects, were tolerably good. When this disease had continued between two and three years, the extremity of the rectum became relaxed, and protruded through the sphincter ani. Strong astringents, as decoct. cort. querci, with alum, were applied to the part, which had the effect of bracing the hæmorrhoidal vessels, and propelling the blood into the uterine vessels, as she was cured of her complaint, and has menstruated regularly ever since, and perfectly recovered her health. There appears to have been a local weakness in the hæmorrhoidal vessels, and a periodical congestion in them.

Remarks on Toothache, by a Correspondent.

IT is cause of considerable surprise, that while toothache is a disease which so often presents itself to the notice of the surgeon, so little has yet been done for its cure. Whether this has arisen from the proverbial indifference with which it is said to be viewed by all but the immediate sufferer, or from a slavish conviction of its incurableness, I shall not determine. It is evident, from the practice adopted in a vast majority of cases, that it is still considered incurable.

Diseases of the teeth are now generally entrusted to a separate order of practitioners; and every sensible person will approve of the appropriation, which, on the principle of the division of labour, found, by experience, to be useful in other professions, is well calculated to improve our knowledge of the science, and our skill in the art. I believe that, accordingly, the operative branch of the art is considerably advanced, and that teeth are extracted with less pain, and with greater neatness, than they were fifty years ago; but I doubt much whether we have obtained proportionate power over the disease, and whether the cure of toothache be not yet a desideratum. The form of instruments, and the method of operating, have undergone multiplied changes, and many improvements have thus been added to our stock of knowledge; but they give us no control over the disease, and we are as far as ever from effecting its cure. In saying this, I mean no disrespect to the suggesters of these mechanical improvements, (and one of them, described in a former number of this Journal, by Mr Hardy, bids fair to be useful.) I merely wish it to be understood, that the extraction of the tooth, and the cure of the toothache, are quite distinct things, and cannot be considered as in any degree synonymous.

The destruction or removal of a member must be viewed as an acknowledgment of the weakness of the art. In other diseases, it is never resorted to, till every remedy has been tried and found ineffectual. In toothache, so far from being the "ultima ratio," it is frequently used at first sight, and, in a large majority of cases, after a very short and trifling application of remedies. I would not be understood as throwing indiscriminate censure upon the operator; the urgency of his patient is generally to be appeased by no consideration but instant relief; but, were surgeons to keep more steadily in view, as their object, the cure of the disease, they would frequently be able to induce their patients to delay at least the use of the tooth-key and forceps.

When we consider the causes of toothache, we see still more reason to doubt the propriety of the present practice. It arises sometimes from the mechanical irritation of a particle of food, sometimes from inflammation of a carious tooth, at others from the inflamed gum, sometimes from sympathy with the chilled extremities, and again, from sympathy with the loaded stomach, or irritated nostril. To treat a disease upon rational principles, we must view it in connection with its cause; and it would seem strange to apply the same remedy (if extraction deserves the name) to cases in which the remote causes differ so materially.

Whether toothache ever does attack any but an already diseased tooth, I am not prepared to say. If it does, why should we remove the tooth merely because it is affected with pain? We possess remedies useful enough in other cases, and they ought surely to be first resorted to. Let us view the disease as rational pathologists, and not merely as mechanics, however nice and adroit in the handling of tools. It is frequently alleged by patients, that because a tooth is *carious*, it ought necessarily to be removed as a useless member, and as

ready to contaminate its neighbours. It remains, however, to be proved, that a carious tooth is useless, injurious, or even necessarily painful; indeed, every day's experience contradicts the assertion. Many individuals having several of such, suffer little or no inconvenience from them. The teeth decay, indeed, but so gradually and so imperceptibly, that their possessor hardly suspects it; and sometimes the decaying process becomes stationary, and advances no farther. These individuals are liable to attacks of toothache occasionally, but perhaps not oftener than once or twice a-year, and then from some exposure to cold or moisture, which is easily to be guarded against by caution.

The treatment of this disease naturally divides itself into two parts, the removal of the present paroxysm, and the cure of the caries which is so generally observed in the pained tooth. I am unable to propose any treatment under this latter head; my observation has been too limited for this purpose; but I would call upon those whose opportunities and abilities are equal to it, to direct their attention to the subject, as one well deserving of their investigation. For the relief of the paroxysm many remedies have been proposed, and some have been found efficacious; but it is generally observed, that what is useful to one patient is of no advantage to another. This arises in a great degree, as I cannot help thinking, from indiscriminate prescription, without that steady attention to the cause of the affection which can alone produce successful practice. When the pain arises from the irritation of an extraneous body, the indication is evident; it must be washed out, and then the pain will generally cease. Should it still continue to annoy the patient, there will be no need for extraction; an emollient, a stimulant, an opiate, applied to the pained part, will often procure ease. Though inflammation has supervened, still extraction will not be indispensable. Inflammation, we should always recollect, is not an interminable affection, but may of itself subside after a longer or shorter duration. Whether it exists in the tooth or gum, (and particularly if in the latter,) it ought to be treated, as it is in other parts of the body,—by evacuants. Bleeding from the gum, either by leeches or by the gum-lancet, ought always to be had recourse to. Leeches are on several accounts more advisable; but, from the antipathy which most people feel to their application in such a place, we must substitute the lancet. Such treatment will often give immediate relief, or, at least, it will shorten the duration of the disease, or prevent the formation of gum-boil, an affection so tedious and distressing.

I trust I shall be excused in mentioning a form of toothache, or rather a stage which it sometimes reaches, which appears perplexing, but which readily yields to the appropriate treatment. In this case, the pain continues for days or weeks without being very urgent; but at last a general unwellness supervenes, which is probably pyrexia somewhat modified. They who have seen or felt the affection will easily recognize it, and perhaps it may be styled odontalgic erethism.

General bleeding, purgatives, and quiet, are requisite to remove the local and constitutional symptoms.

I have no intention, by these remarks, to condemn the practice of extraction. In all cases where the tooth is loose, where it is permanently painful, where a large surface is diseased, or where any idiosyncrasy exists, the tooth ought certainly to be removed. I only contend, that extraction is much less frequently necessary than is generally thought; that it ought to be viewed as a last resource; and that it is not a remedy, but uniformly bears on its front an acknowledgment of the weakness of medicine.

Observations on the Treatment of Gout. By A. Veitch, M. D.

From the frequent occurrence of gout in this neighbourhood, I have, for some time, paid more than ordinary attention to the treatment adopted in that disease, and having found such decided benefits from the use of local as well as general blood-letting, but particularly the former, that I have been induced to give it publicity, through the medium of your valuable Journal, that a trial of its effects may be more widely extended, and some of your more able correspondents induced more closely to investigate the *modus operandi*, which, if it tend to a more perfect knowledge of this mysterious disease, my object will be attained. It is by no means my present intention to offer any remarks, with a view to the illustration of any opinions I may entertain respecting the cause of this disease, though they may appear necessary, when so widely differing from the practice of the present day, but as that would lead into a longer detail than what I purpose by the present communication, suffice it for me to state, that I have, like others of my professional brethren, tried, and seen tried, in vain, so many and so various means, that I am doubtful whether the remedies have not oftener been worse than the disease itself; and it is no less painful to see men, in all ranks of life, daily swallowing the ephemeral specifics of the day, to the ultimate ruin of their constitutions, and substituting temporary cure for permanent mischief, without having it in our power to counteract the deleterious effects of these pernicious drugs. The following plan, however, has at least this advantage, that we are aware of what is doing, and have it in our power to regulate the means, according to the age, strength, and constitution of our patient. But, after every trial which I have made of it, no bad effects were ever produced, even in the most debilitated; on the contrary, it has never failed, when properly administered, and I am every day more persuaded of its beneficial effects.

I am aware, that the profession are not to be told, that general as well as local bleeding has before been recommended, tried, and abandoned; but, I am persuaded, it has been abandoned only in consequence of misapplication, and upon its proper application its success chiefly depends.

Leeches, from the nature of the disease, are perhaps the best

local application, and it is my usual practice, as soon as the patient begins to feel a fit of the gout coming on, and when its determination to a certain part is ascertained, by the commencement of *pain* in that part, immediately to apply four or five leeches, near to, or upon the part affected, though I have seen an attack on the knee entirely removed by the application of leeches to the foot. To the gout, the greatest attention, however, is necessary, not to apply them after *inflammation* has commenced in the part. The presence of *pain only*, and *not* of *inflammation*, is the time when they ought to be applied; if this is not attended to, the paroxysm, in place of being diminished, will be increased. On the contrary, by paying strict attention to this, the paroxysm will altogether be prevented, as well as its recurrence, by a timely reapplication, (if it should be found necessary by the return of pain.) Should, however, the swelling, pain, and also the *inflammation*, have come on so rapidly, or there has been a delay of the application, we must wait till the *inflammation* has somewhat subsided, before we ever apply the leeches; after which all the good effects will follow, and the hitherto suffering patient will in half his usual time regain the use of his legs and feet. In the event of the head, heart, lungs, or stomach becoming affected, general, as well as topical bleeding, combined with blisters, and calomel purgatives, will prove equally efficacious. I could give many cases both of old and young gouty subjects, who have found the most decided relief from this plan of treatment. In young persons, and those who have not had gout, were general as well as topical blood-letting, together with other antiphlogistic means, strictly adhered to, on its first commencement, they would have little cause to fear a second attack. An able and learned physician seems to have had similar ideas when in his (Clarke's) Compendium Praxeos Medicinæ, he says, "An florente ætate, viribusque minime labefactis, prima morbi accessione, sanguinis missio?" And the old gouty patient will feel many of his sufferings alleviated by the timely application of this *local* method; and when the limbs have become stiff from repeated attacks of gout, and the formation of concretions on the joints, "An sarsaparillæ decoctum acido nitrico et hydrargyri preparationes ad salivæ fluxum lenem ciendum?"

Alford, Lincolnshire, 24th Jan. 1820.

Suggestion respecting the possibility of Destroying Cancer, by the application of Intense Cold, communicated to the Editor by a Medical Friend.

An expedient has suggested itself to my mind, by which I think that the application of artificial cold to a diseased part might be rendered very manageable: That is, by employing masses or plates of metal, cooled down to the requisite degree in a frigorific mixture, and then applied, for a sufficient time, to the part upon which it might be wished to induce mortification. I suppose that this effect would certainly be induced, by the application of heat, after withdrawing the cold application.

Such *metallic masses might be formed* to any shape or size that

might be wanted, and would have the advantage of limiting the application of the cold correctly to the surface intended.

The section of Van Swieten, which I mentioned to you to-day, upon the subject of cancer, is 499. His speculation about curing the disease, by inducing mortification, commences with the words, "Sed an non possit totus cancer emori?" or, in the translation, "But is it not possible for a cancer to mortify?" and is continued to the end of that paragraph. The view he takes of the subject seems most sound and rational; and it appears to me that we possess an agent, in artificial cold, sufficiently powerful to execute his views. Having barely suggested the idea, I shall content myself with recommending it to your more mature deliberation.

It would seem to correspond pretty correctly to what Van Swieten was in quest of; but in deep-seated diseases, where the preservation of skin by the knife so much contributes to the cure, it would seem to be less suitable. In more superficial affections, or in prominent tumours, especially those with circumscribed necks or bases, it may have fewer disadvantages.

Utility of the Piper Cubeba in Leucorrhœa, communicated by Dr S. Traill of Liverpool.

Having proved the utility of the Indian remedy *piper cubeba*, in many cases of blenorrhœa, I was led by analogy to try it on several persons labouring under leucorrhœa, and am satisfied, that it is a valuable auxiliary in this troublesome disease. In every instance it has mitigated the violence of the complaint, and in several cases has removed it. I have administered it in doses from 1 to 3 ʒ of powder; but many persons cannot take more than ʒi. without experiencing nausea; and ʒij. given twice or thrice a-day, will generally be found sufficient. As far as my experience goes, it is most useful in old and obstinate cases of blenorrhœa: in one recent case it seemed to have a tendency to excite hernia humoralis.

Remarks on Coffee as an Expectorant, by James Robinson Scott, F. R. S. Edinburgh.

As that state of the bronchial membrane, in which there takes place a pretty copious and free secretion of mucus, is unfavourable to the continuance of certain paroxysms of asthma, it becomes desirable to produce such a state, the symptom or indication of which will be as above, and therefore various medicines called expectorants are used. Coffee as a palliative in asthma has been long known. Some think it chiefly acts as an antispasmodic; but I was about a year ago forcibly struck with its singularly sudden operation as an expectorant in my own person; I found almost every expectorant fail in its effect but coffee. A friend observed and called my attention to the fact, that the *moment* I swallowed about half a tea-cupful of coffee without milk, I expectorated freely. I have since that time derived

great advantage from its use, but I *always* find that the expectoration *instantly* succeeds to the introduction of it into the stomach, however dry or even sore the bronchial membrane may be. No other medicine of the class of expectorants operates at all so speedily on me as coffee. How closely then must nervous sympathy be connected, and how quickly the nerves act over secretion?

Observations on the Preparation of Soporific Medicines, from common Garden Lettuce, by Mr JOHN YOUNG, *Fellow of the Royal College of Surgeons of Edinburgh.*

THERE is often a long repose between the acquisition of knowledge and the application of it to useful purposes; and it sometimes happens that notices of what might be useful are met with by those who are desirous of contributing to the advancement or revival of useful science, in the works of authors who flourished in remote ages. Such notices or suggestions have frequently been improved, or have given rise to new ideas in the mind of succeeding authors: But there is no branch of medical science in which less progress has been made, than in the knowledge of diseases and the means of cure. This may be observed from the writings of medical authors of the present age, in which there is a constant reference to the established doctrines, or hypothetical cogitations of preceding authors, even to the remotest periods of scientific research: And it is no small recommendation to the work of a modern medical author, that it has copious references and marginal notes. This indicates the appearance, at least, of much study, both in point of reading and of thought: But it is the very essence of book-making, and when a man sits down to amuse the world with his lucubrations without this essence, he is not sure, however new and delightful his idea may appear to himself, that it may be already developed in the pages of the fathers of medicine, who have not only handed down to us the knowledge of all the diseases which we meet with, but also the means of cure. With regard to the various means of cure transmitted to us, some may be said to have gone out of use, some to have come into fashion. While others, which have only been hinted at by the ancients, as possessing useful properties, have never been brought into common practice. Among others, the Lactuca sativa, or common garden lettuce, had long been known to possess narcotic properties. It does not appear, however, that a substance possessing all the valuable qualities of opium had ever been extracted from it, and it was chiefly from tradition that its effects were known, especially by observing, that people were rendered sleepy by eating old lettuce.

In the year 1792, Dr R. Coxe of Philadelphia began to try some experiments, to determine the quality and nature of the milky juice which exudes from the common garden lettuce when wounded, which convinced him of the analogy between the common officinal opium and the milky juice of garden lettuce. And, in the year 1810, Dr Duncan, sen. published his Observations on the Preparation of

Soporific Medicines from common Garden Lettuce, in the first volume of the Memoirs of the Caledonian Horticultural Society. In the second edition of his Observations on Pulmonary Consumption, published at Edinburgh 1816, his words are, "Of all the medicines which I have employed for alleviating cough in phthisis, and, indeed, as a sedative in many other diseases, next to opium, I have found no article so beneficial as that substance which some have lately denominated lettuce opium, and which I termed Lactucarium." And in another part of the same work, he states, that, as a substitute for opium, he never employed one from which he had seen so great benefit as from the preparations formed from the inspissated white juice of the common garden lettuce.

Medical practitioners often have to regret, that there are particular circumstances which render the use of opium improper, however modified the preparation of that drug may be. In many cases, where the preparations of opium are used for procuring sleep, alleviating pain, and in allaying inordinate action, particularly troublesome cough, either sickness at stomach, confusion of head, or a state of constipation, is induced; and, in some cases, where inflammation prevails, it is aggravated by opium.

The discovery of a medicine, possessing anodyne or sedative properties, without producing the distressing consequences that follow the use of opium in certain constitutions, has long been a desideratum. And, as lactucarium appears to possess these properties, it is important that the composition and pharmaceutical preparations of this article should be well understood by apothecaries, especially as it has but lately been introduced into medical practice. Therefore, without any reference to the particular diseases for which it may be prescribed, it is the object of this communication to show, that the dried milky juice of lettuce or lettuce opium, as collected by Mr Young's process, from which lactucarium is obtained, contains a very great proportion (not less than one-half) of a substance resembling caoutchouc or Indian rubber, which is neither soluble in water nor alcohol, and which must be separated. For, like opium, the medicinal properties reside in the extractive matter obtained from lettuce opium by the action of water and alcohol.

The lettuce opium, with which apothecaries have been supplied, as prepared by Mr Young, must be subjected to a pharmaceutical process before the substance, to which Dr Duncan has given the name of Lactucarium, can be obtained. The lettuce opium, in the recent state, is certainly fit for making the tincture or lettuce laudanum. But it must be recollected, that, instead of one ounce of the prepared lactucarium to the pound of diluted alcohol, not less than two ounces of the lettuce opium is required for making lettuce laudanum equal in strength to that prepared by Dr Duncan's process; and that, when intended to be given in substance, in the form of pills or powder, or used in extemporaneous prescriptions in combination with other medicines, the extract of lettuce opium or lactucarium ought to be kept in the shops of apothecaries.

With regard to the dose of this medicine, it may be observed, that from one to five grains of prepared lactucarium has been given to adults. But, like other narcotics, the dose must be regulated by the judgment of the practitioner.

Officinal Preparations.

1. Lettuce opium, dried milky juice of garden lettuce.
2. Lactucarium, extract of lettuce opium.
3. Tincture of lactucarium, or lettuce laudanum.
4. Lactucarium, or lettuce opium pills.
5. Lactucarium, or lettuce opium lozenges.

Formula tincturæ lactucarii.

℞ Succi lactei exsicci Lactucæ sativæ uncias duas.
Alcoholis diluti libram unam.
Digere per dies septem et per chartam cola.

*Lactucarium Præparatum.**

℞ Succi lactei exsicci Lactucæ sativæ libram unam. Alcoholis diluti libras octo. Digere per dies quatuor, et effunde tinctura. Mmagma residuum coque ex aquæ distillatæ libris sexdecim per horæ quadrantem et decoctum adhuc fervens, per linteum cola. Hanc coctionem et colationem cum pari quantitate aquæ distillatæ repete, et liquorem per vaporationem redige ad mellis liquidioris spissitudinem. Alcohol è tinctura distillatione abstrahe, donec similiter spissescat. Tum liquores sic spissatos permisce, et in balneo aquæ ferventis muriate sodæ saturatæ, redige ad idoneam crassitudinem.

Dissection of a Human Monster. By James Murdoch, *M. D. Fellow of the Royal College of Physicians, and Lecturer on Midwifery.*

Mrs Grant, Shoemakers' Close, Canongate, was delivered, on the morning of the 7th of May 1819, after an easy, though preternatural labour, in which the feet presented.

According to her own calculation, labour had commenced at the 8th month of utero-gestation, and the child being small, little difficulty was experienced, except when extracting the abdomen through the os externum, which arose from that cavity containing a considerable quantity of a fluid.

The child was born alive, and continued to live about one hour;—before death, the limbs became of a dark purplish hue, and the breathing was performed by gasps.

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* For the other preparations of this medicine, see Dr Duncan's Observations on Pulmonary Consumption. 2d edit. 1816.

External Appearances.

Head, chest, and upper extremities, natural; lower extremities of the natural size, but club-footed.

The abdomen was of an uncommon bulk, very soft to the touch, and evidently containing a large quantity of some fluid, which occasioned a considerable flattening when the child was laid on its back. On a slight examination, it appeared to be contained in two or more sacs, the larger occupying the epigastric, umbilical, and lumbar regions; the lesser the hypogastric chiefly, which, from its flatness and depending position, covered the symphysis pubis, stretching as far down as the middle of the thighs. There was no vestige of an anus, or of external organs of generation.

The umbilical cord, consisting of one artery and one vein only, was inserted into the parietes of the abdomen, nearer the scorbiculus cordis than it is generally found, the vessels entering in a slanting direction, and proceeding downwards and upwards first, and then upwards, to the liver, through which it appeared to be ramified in the usual way.

From this particular insertion, the root of the cord occupied a greater space than usual, having immediately under it a small opening, as if part of the abdominal parietes had been wanting.

Internal Appearances.

Having first laid open the under sac, which hung over the symphisis pubis, about a pint of yellow-coloured serum was discharged; the anterior walls were very thin, having a yellowish tint like the fluid itself; the posterior walls were very thick, and possessing a hard gristly feel; both were connected together by two small, but very strong ligamentous bands, about the thickness of an ordinary sewing silk thread.

On laying open the upper or larger sac, a fluid of similar appearance was evacuated to the amount of about three pints. Examining now more attentively the posterior wall of the under sac, a slight fluctuation could be discerned; and upon cutting through which, a third sac was laid open, containing a small quantity of a fluid like to the former, and extending from the under edge of the insertion of the umbilical cord downwards towards the hypogastric region, and then slightly upwards and outwards, towards the upper part of the iliac region.

At the termination of this sac, and communicating with it by an opening capable of admitting a surgeon's probe, was found a fourth sac, considerably smaller than any of the others, but filled with the same kind of fluid.

The stomach was next examined, and found to be of the ordinary size, but, from a contraction near the pyloric extremity, presented an appearance of being a double stomach. This organ was perfectly natural at the cardiac extremity, but completely impervious at the pyloric extremity.

The intestines throughout were uniformly of the same size, hav-

ing a diameter equal to that of a common-sized goose-quill, but presenting no characteristic marks betwixt larger and smaller intestines.

The upper extremity of the duodenum was connected to the posterior surface of the smaller sac of the stomach through the medium of cellular membrane only, but perfectly impervious, and having no communication whatever with that organ.

Tracing them downwards, their termination was found to be in a cul de sac in the under and left side of the umbilical region. They were of the usual length, and when cut into, contained, throughout their whole extent, a tough substance of a greyish colour, having the consistence of coagulated lymph.

Liver.—This organ was remarkably small, not exceeding one-fourth of the ordinary size, presented a natural appearance, but was found to adhere partially to the stomach; when cut into, a little moisture exuded from the divided edges, which, to the taste, was perfectly insipid.

Gall-bladder.—This, like the liver, was very small, but no duct could be found, after a very minute examination, communicating with it either from the liver or intestines.

Spleen, pancreas, and kidneys, presented a natural appearance.

The bladder and the whole of the internal organs of generation were wanting.

The intestines, and part of the umbilical cord, are in my possession.

Edinburgh, March 15, 1821.

Reply from Dr HASTINGS *to a Passage in the Review of his Treatise on the Inflammation of the Mucous Membrane of the Lungs.*

As it is not clearly understood that many of the cases mentioned in Dr Hastings' Treatise on Inflammation of the Mucous Membrane of the Lungs were not under his own management, he begs the Editor will allow him to state, that most of those which are related as coming under his observation before November 1818, were noted down by him during his residence as house-surgeon in that Infirmary in the years 1812, 1813, 1814, and 1815. The treatment of some of these cases is not particularly detailed, because they were received under the care of the physicians in the last stages of the disease, and were barely related in Dr Hastings's work, with the view of exemplifying the changes which, under certain circumstances, take place in the structure of the lungs.

Extract of a Letter from J. INGLIS NICOL, *Surgeon, Inverness, to the Editor.*

FROM the interest you take in every thing that tends to improve our profession, I am sure you will be pleased to hear that an association has been formed in the capital of the Highlands, under the designation of the Medical Society of the North, whose objects are the improvement of the profession in all its departments. This society, which now consists of upwards of 30 members, was formed in 1817, but intimation was withheld until we saw how it prospered. I am now happy in being able to inform you, that we have, with very few excep-

tions, met regularly every month since the commencement, and have received several interesting communications, which, in all probability, would never have been thought of but for this plan of exciting members to industry. Our library is growing, and, though it consists chiefly of periodical publications, with a few standard works presented by members, it nevertheless disseminates a great mass of information among medical practitioners, to whom access to professional works would otherwise be difficult. A few specimens of morbid structures have also been collected.

Journal de Physiologie Expérimentale. Par F. Magendie, M. D.

It is with the greatest satisfaction that we announce the commencement of a journal, specially devoted to so important a branch of the science of our profession as Experimental Physiology, and to be conducted by one who has approved himself so able a labourer in that field as Dr Magendie. We cannot promote it more effectually, than by quoting a paragraph or two from the Prospectus.

"Je recevrai donc avec reconnaissance et je placerai dans le recueil que j'annonce, tous les travaux physiologiques, toutes les recherches de médecine, qui, fondées sur des observations precises, des expériences exactes, et qui dictées par un esprit sévère, avant tout ami de la vérité, me paraîtront propres à éclairer les phénomènes de la vie.

"Un avantage qui distingue la plupart des journaux consacrés aux sciences physiques, c'est d'être rédigés par des savans qui s'efforcent de les enrichir de leurs propres découvertes, et qui par-là même, sont plus aptes à juger de celles des autres. "Les travaux que j'ai publiés sur la physiologie et la médecine, me donneront peut-être quelques droits à la confiance du public pour la redaction du Journal de Physiologie expérimentale.

"Le Journal de Physiologie-experimentale se composera de quatre numéros par an, qui paraîtront régulièrement tous les trois mois.

"Chaque numéro contiendra six feuilles d'impression in-8°, et même davantage si l'abondance des matières le nécessitait. Des planches y seront ajoutées toutes les fois que cela sera utile.

"Les quatre numéros formeront un volume à la fin de l'année, conséquemment l'on ne pourra souscrire pour un numéro détaché.

"Le prix de l'abonnement pour l'année sera, pour Paris, de 12 francs.

"Franc de port pour les départemens, 13 fr. 50 cent.; et pour l'étranger, 15 fr.

"Le premier numero paraîtra en Janvier 1821.

"On souscrit, à Paris, chez MEQUIGNON-MARVIS, libraire, rue de l'Ecole de Médecine, n° 3, près celle de la Harpe."

Dr Vetch has been elected One of the Physicians to the Royal Infirmary for Cutaneous Diseases, vice Dr Emerson. Dr Ashburner was at the same time elected to a similar situation.

The venerable Dr Jackson has lately visited Constantinople and the Ionian Isles, to investigate the subject of Plague; and Gibraltar, Cadiz, and the South of Spain, to investigate the subject of Yellow Fever. He is about to lay the result of his labours before the public.

A TREATISE on DYSPEPSIA; or, Indigestion. By J. Woodforde, M. D. Castle Cary, Somerset, 8vo. 2s. 6d. sewed.

In the Press, and will shortly be published, The Principles of Forensic Medicine, explained, illustrated, and applied to British Practice; by J. G. Smith, M. D.

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Communications have been received from Drs Marshall Hall and Andrew Smith; and from Messrs Michael Dawson, T. Le Gay Brewerton, J. Fosbroke, C. Telfair, and Cameron.

We have received for Review:

An Essay on the Epidemic Cholera of India, in two volumes, Vol. I. By Reginald Orton, Assistant Surgeon of his Majesty's 34th regiment. 8vo. Madras, 1820. pp. 421.

An Account of the Rise, Progress, and Decline, of the Fever lately epidemic in Ireland; together with Communications from Physicians in the Provinces, and various official documents. By F. Barker, M. D. Professor of Chemistry, and J. Cheyne, M. D. Physician General. 2 vols. 8vo. Dublin, 1821. pp. 500 and 387.

A Treatise on Indigestion and its consequences, called Nervous and Bilious Complaints; with Observations on the Organic Disease, in which they sometimes terminate. By A. P. W. Philip, M. D., F. R. S. E. 8vo. London, 1821. pp. 363.

Observations on Derangments of the Digestive Organs; and some Views of their Connection with Local Complaints. By William Law, Fellow of the Royal College of Surgeons of Edinburgh. Edinburgh, 1821. 8vo. pp. 156.

Practical Observations on the Symptoms, Discrimination, and Treatment of some of the most important Diseases of the Lower Intestines and Anus, &c. &c. By John Howship, Member of the Royal College of Surgeons, in London, &c. &c. London, 1821. 8vo. pp. 234.

Peptic Precepts, pointing out agreeable and effectual methods to prevent and relieve Indigestion, and to regulate and invigorate the action of the Stomach and Bowels. By the Author of the Cook's Oracle. London, 1821. 18mo.

Practical Observations on the Use of the Cubebs, or Java Pepper, in the Cure of Gonorrhœa, with cases. By Henry Jeffreys, Esq. Senior Surgeon of the St George's and St James's General Dispensary, &c. London, 1821. 8vo.

A Physiological Essay on the Sensibility of Animals, being the first part of a Series of Enquiries on the Nature of Life. By G. W. London, 1820. 8vo.

Advice to the Physician, the Surgeon, and the Apothecary, and to their Patients, after the manner of Dean Swift. By a Physician. London, 1821. 8vo. pp. 73.

A Letter addressed to the Legislature on Vaccination. Clifton, 1821. 8vo. pp. 14.

Remarks on the Expediency and Practicability of a Union of the Royal Colleges of Physicians and Surgeons in Edinburgh. Edinburgh, 1821. 8vo. pp. 16.

Address to the Public, relative to some supposed failures of the Cow-pox, at Repton and its neighbourhood, with Observations on the Efficacy and General Expediency of Vaccination, and on the injurious consequences of Inoculation for the Small-pox. By B. Granger, Surgeon. Burton-upon-Trent. 1821. 8vo. pp. 34.

Seventh Annual Report of the Directors of the Glasgow Asylum for Lunatics, 4th January 1821. Glasgow. 8vo. pp. 35.

State of an Institution near York, called the Retreat, for Persons afflicted with Disorders of the Mind. York, 1820. 8vo. pp. 29,

Copy of the Report to the Secretary of State for the Home Department from the National Vaccine Establishment, dated 12th April 1821.

Nouveau Journal de Medecine, redigé par MM. Beclard, Chomel, H. Cloquet, J. Cloquet, Desormeaux, Guersant, Marjolin, Orfila, Ach. Richard, et Rostan,—to March 1821 inclusive.

Revue Médicale, Historique et Philosophique. Par MM. V. Bally, Bellanger, F. Berard, Bertieu, Bousquet, Delpech, Desportes, Double, Dunal, Esquirol, Gasc, Giraudy, Jadioux, Laurent, Nicod, Prunelle, Rouzet. To February 1821 inclusive.

THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JULY 1821.

PART I.

ORIGINAL COMMUNICATIONS

I.

Contributions to Morbid Anatomy. No. II. By ANDREW DUNCAN, Jun. M. D. F. R. S. ED. Fellow of the Royal College of Physicians, and Joint Professor of the Theory of Medicine in the University of Edinburgh.

THE value of an accurate record of cases, by which we are enabled to compare the symptoms preceding death with the appearances discovered on the examination of the body, was never more highly appreciated than at present. Morbid anatomy contributes materially to the knowledge of the functions of the organs of the body in health, and is the surest foundation of all our pathological investigations. To possess interest, it is by no means necessary that the fact observed should be supposed to be unexampled, or that the reporter should possess a series of instances, or should enter into extensive speculation concerning its causes and effects. The first is now rarely to be expected; and the others require greater opportunities, or more leisure, than are possessed by many. But almost every attentive practitioner has it in his power to add his mite to the general stock of information derived from this source, as each case has some peculiarity connected with it, which confirms or corrects conclusions drawn from preceding observations; and by preserving individual cases, the best materials are furnished for the methodical compiler, or the ingenious theorist, to digest or explain.

In hospital, as well as in private practice, I have had opportunities of making various pathological observations, which seem to me not unworthy of being preserved and published. In

grouping together various morbid affections of the same organ, and in subjoining occasional reflections, I merely wish to facilitate the comparison of analogous facts, and to point out those circumstances which, at the time of recording the facts, appeared to me most interesting. Some of the hospital cases are detailed with greater minuteness than may appear necessary; but I was unwilling to abridge too much the authentic record of the journals; and I have to regret that I have not always preserved, in my notes, the names of the gentlemen who assisted me in drawing up the histories of the cases, or in examining the bodies.

CASE I.—*Disorganization of one Hemisphere of the Brain, in consequence of a Fall on the Head, unattended with symptoms of Mental Affection, Inflammation, or Palsy.*

G. L. æt. 30, was admitted into the hospital February 23d, on account of constant pain in his head, always severe, but varying at times in intensity, and of loss of sight to such a degree, that he could just distinguish day from night. The pupils of his eyes were much and permanently dilated, not contracting in the slightest degree on sudden exposure to a strong light. His hearing was also somewhat impaired, and he walked with difficulty. He had also a partial loss of memory. His pulse was perfectly natural. Appetite keen. Digestion good. Tongue foul. And he said he had at times increased thirst, and was disposed to costiveness.

These complaints were induced suddenly about four months ago, when, being intoxicated, he fell from a height upon his forehead, and remained for some hours insensible on the ground, exposed to cold and wet; but he had no distinct recollection of the circumstances connected with the accident.

For some time after it, his head was severely affected; but the pain gradually left it, and did not return till a short time before his admission into the hospital. His blindness, on the contrary, uniformly increased.

He had had blisters applied to his head, a seton inserted in his neck, and occasional purgatives, without receiving any marked or permanent benefit.

While he remained in the hospital, there was no material alteration of the symptoms in consequence of any thing that was tried. His headache sometimes remitted a little, at other times was so severe as almost to drive him distracted; but, upon the whole, it grew worse. He seemed to refer it chiefly to his forehead.

In conversing with me, he was always very distinct, and

seemed to have suffered no loss of intellectual power; but it appeared, from the nurses and other patients, that his memory was partially impaired, for example, that he did not remember the name of his wife until he was reminded of it. The state of his vision also varied a little; and on the evening of the 24th of March he discerned the light of a candle, which he had not been able to do for some time; but in a few days afterwards he was reported as being totally blind. After dinner, on the 26th February, he had a fit, and fell to the ground in a state of insensibility, which lasted about two minutes; and he remained confused for some time afterwards. On the 1st of April, also after dinner, he had a fit, which lasted about ten minutes, during which he was insensible, but struggled to get out of bed. He now became impressed with the idea that he should not recover, and wished to return to his family, in Fifeshire, before he died; and he fretted so much, that I was obliged to consent to his leaving the hospital, although I did not think that he could possibly reach home, to which he prepared to go in a vessel from Leith. He went to Leith in a coach on the 8th of April, and bore the shaking apparently well, but died there on the 10th.

The head was opened on 12th April, in my presence, by my friend Dr Kellie, who had seen him on the day of his death.

In removing the scalp nothing unusual was perceived; but, when forcing off the upper half of the cranium, it appeared to have had remarkably little connection with the dura mater, as it sprung off and fell to the ground as soon as the small points of bone, which had not been sawn through, were broken asunder.

On the dura mater on both sides of the longitudinal sinus, and lying parallel to it in lines about an inch distant from each other, there were a number of small round eminences, (glandulæ Pacchioni?) and on the inner side of the calvarium were deep pits, as if scooped out, corresponding to them.

The dura mater adhered to the tunica arachnoidea and pia mater along the sides of the longitudinal sinus more firmly than usual, and the inner membranes seemed thickened.

The upper portion of the right hemisphere of the brain was cut off in the common way. The brain on this side was natural in appearance, but unusually firm.

The ventricle evidently contained fluid; and on opening it, about three ounces of perfectly limpid serum were evacuated. The right corpus striatum and thalamus opticus appeared healthy.

On cutting into the left hemisphere of the brain, it was found to be very much diseased, almost the whole of the medullary substance, especially in the posterior lobe, being soft, gelatinous,

semitransparent, and of a bluish colour. Near the lateral ventricle, but more superficial, there was a considerable cavity, containing a considerable quantity of yellow grumous matter, like pus coagulated, or from which the water had been absorbed. The disease occupied the whole central part of the hemisphere; but the surface and cineritious substance in general did not seem much altered.

The cerebellum and medulla oblongata were healthy.

The optic nerves, as far as they were traced, were healthy.

The same want of cohesion between the dura mater and the cranium existed in the lateral, posterior, and anterior parts of the lower half of the skull, but was less remarkable in the basis.

The skull itself was in general thinner than common, and had less diploe, so that it was considerably transparent. The outer table was in every respect natural. The sutures were not examined. The inner table, however, seemed to be undergoing the process of absorption. The surface was slightly rough, as if it had been acted upon by a weak acid; and it was covered between the digital impressions produced by the pressure of the convolutions, by short points of bone, more numerous and prominent at the inferior portion of the left parietal bone, as if the skull had been left of its original thickness where that pressure had not acted. Also the process of the frontal bone, which corresponds to the fossa Sylvii, terminated in a thin sharp lamina; and the anterior and posterior clinoid processes were sharp and scabrous.

The circumstances in this case most deserving of notice are, the severity of the symptoms immediately succeeding the accident, their subsequent remission, with the exception of the blindness, which gradually increased, and the extensive disorganization of the brain observed in the body.

Whatever was the cause of the intense headache which immediately succeeded the accident, whether the indirect debility, the consequence of intoxication; or that greater degree of the same affection produced by concussion; or mechanical injury, it disappeared for a time, for he had been free from headache for some time previous to admission, and had even attempted to return to his work. It is probable that the immediate effects of the injury were quickly succeeded by active inflammation of the hemisphere, which had terminated in suppuration before the remission of the headache, for the dry pus found in the preternatural cavity in its substance, was evidently not of recent formation; and after his admission into the hospital, there were no symptoms of inflammation to be observed.

The gradual increase of the blindness may be accounted for on the supposition of increasing pressure from the effusion of fluid, but its sudden commencement immediately after the injury suggests the possibility of some rupture or effusion at the time.

Notwithstanding the considerable quantity of fluid found in the right ventricle, and the total disorganization of the left hemisphere, there were no symptoms of compression except the blindness, and none of inflammation except the pain and some thirst. The only affection of his mental faculties was partial loss of memory and increased irritability of temper, while his functions were scarcely at all affected. He had no muscular paralysis. He slept well for a person in such agony of pain. He had a very good appetite, and digested well. His bowels were not immoderately costive. Urine natural. Pulse and respiration perfectly natural, and yet this nearly healthy state of his organic and animal life was found to co-exist with the manifest disorganization of almost all the medullary substance of the left hemisphere of the brain.

Is the medullary matter of less importance to the due performance of the functions of the brain, than the cortical? Supposing the brain to be a double organ, why are its functions unimpaired when one organ is affected? Is the affected side cut off from all communication with the *sensorium commune?* Why in this case was no difference to be perceived in the muscular powers of the two sides of the body?

Case II.—*Disorganization of a large portion of one Hemisphere of the Brain, producing first Mental Derangement and then Hemiplegia.*

J. J. aged 50, Chelsea pensioner, March 21st, was admitted into the Infirmary in a state of high delirium, using violent muscular action, and throwing himself into various postures. He appeared at first sight to be in a state of great intoxication, or to be a raving maniac; when placed upon his bed he immediately rolled off, and the assistance of several men was necessary to replace him. The application of the strait-waistcoat became indispensable. Upon being questioned as to his complaints, he referred them generally to his head, which he said ached intolerably, and he applied one hand to the occiput where the seat of the pain seemed to be.

His tongue was white and dry, and he complained much of thirst, to quench which he drank immoderately. The pulse was 104, firm and strong. The heat 98. Surface warm and very dry. The bowels were reported to be regular, and urine

free and copious. His countenance was rather anxious, but not maniacal or wild, nor had he any expression in it indicating pain of body or mind. As to the cause of his complaints nothing could be learnt from himself, for though he was particularly loquacious, his ideas were confused. He had no precise knowledge as to the time of his admission, and he talked incoherently upon several subjects. When more composed, which he became soon after the application of the strait-waistcoat, he said, that six weeks before he had been ill of fever: From his friends, however, it appeared that he had been ill for a few days only, and that the day upon which he was sent in, he fell down suddenly in a fit, and soon became maniacal.

Eighteen ounces of blood were taken from his arm; the blood coagulated rapidly, almost when flowing; there was no buffy coat formed upon it, and the separation of serum was small. An anodyne draught, with sixty drops of laudanum, was ordered at bed-time, and a purging bolus was taken early in the morning. Low diet.

22d.—He ceased to talk early in the evening. At midnight he fell asleep, and slept soundly till eleven in the morning.

When awoke he still complained of his head aching, and talked sometimes incoherently, but was perfectly distinct in his articulation. Every thing that was said to him he immediately repeated in a quick and hasty manner. When informed that he had been riotous the day before, he immediately denied it, and seemed hurt that he was unjustly accused, expressing a desire to behave well, and a willingness to submit to any discipline that might be imposed upon him

The bolus had not opened his bowels; and he had not allowed an injection which was ordered to be administered.

The head was now shaved, and twelve leeches applied to the temples, which bled well; but he was riotous during the rest of the day.

An enema was given in the evening, and an anodyne draught at bed-time.

23d.—He slept ill, and fell out of bed several times. When awoke he talked incessantly, but answered coherently every question put to him. Said this morning that his head was relieved, and complained of some pain in his bones; he now lay upon his left side, with his face close to the wall, and drew his knees up to his body, keeping his head under the bed-clothes.

The injection, which was given, came away with but little feculent matter. He complained much of thirst, and drank immoderately; his appetite was bad.

He got frequent doses of antimonial powder, and the anodyne draught was repeated.

24th.—Did not sleep till four o'clock in the morning; he was quiet during the night, and lay in the posture before described. He seemed much disposed to talk if spoken to, but ceased to talk to himself. Pulse 108, but not strong; he complained less of his head, and did not as formerly place his hand upon his occiput. The bowels still remained torpid. He made many complaints as of pains in his bones. Boluses of jalap and calomel were ordered.

25th.—The medicine operated well, and several liquid passages were procured. He was quiet during the night, but did not sleep. The pulse was 118, and firm, but intermitted a little. He now complained of pain in his arm. There appeared at this time some desire to deceive, and to exaggerate his complaints. He said he could not raise his arm to his head, but he seemed to make violent exertions to resist when any person attempted to lift it up. His account of his complaints was not very accurate; and when he was told that his arm was not stiff unless he made it so, he immediately complained of his feet.

Twelve ounces of blood were ordered to be taken from his arm.

26th.—He was averse to being again bled, and six ounces only were procured. At this time he was apparently sound in mind and body, for though he talked much, and sometimes a little incoherently, yet he was perfectly conscious of every thing he did, and of every thing that was said to him. He talked rationally and sensibly upon many subjects, could give a very good history of himself, and even moralize upon his former unruly conduct.

This evening he again became riotous and restless, and continued so till two in the morning, when he ceased to speak, but moaned for a considerable time after. He has not spoken since intelligibly, though perfectly conscious of all that is done.

The palpebra of the left eye was drawn down, as was the angle of the mouth on the same side. The left arm was warmer to the touch than the right, and the pulse much more distinct. The muscles of the left leg were very rigid, but the fore arm almost paralytic. He now again placed his right hand upon his occiput, where he seemed to feel pain. The tongue was drawn to the left side, but he could not protrude it beyond his teeth. He passed three or four stools during the night in bed, and involuntarily.

27th.—An injection operated well, and he passed several stools since. The pulse could hardly be felt in either arm, but in the carotid it was 108, and intermitted. A large blister to the

head rose well. He has not yet spoken, and draws himself down to the left side of the bed. The left arm is quite paralytic. He is insensible to external objects, and the pupils of his eyes are contracted. The face is somewhat distorted, pale, and and void of animation. The pulse in the left wrist continued of moderate strength. A little wine was allowed.

28th.—Unable to speak. Moans much, and throws about his right arm. Attempts to protrude his tongue. The whole muscles of the left side seem to be paralytic, but still very rigid, requiring some force to bend the joints, which remain in any posture in which they are placed. The pupils of both eyes contracted. Takes a little wine. Pulse about 120, firm, but intermitting in the carotid, and is not felt in the wrist. Extremities generally cold. Face much collapsed.

29th.—Slight redness produced by aq. amm. applied to his head. Got an anodyne injection last night, which was retained. Slumbered all night; seems still sensible, and attempts to protrude his tongue when desired. Surface warmer since injection; mouth discharges a yellowish matter. His back is threatened with mortification.

30th.—Sinapisms, though often renewed, did not affect his head. After injections much foul feculent matter came away. In the evening seemed more sensible, and protruded his tongue better. Countenance improved.

31st.—Lay all night in a state of stupor, with no motion. Respiration natural. Attempted to protrude his tongue when desired. Took yesterday eight ounces of wine. An emollient injection brought off much feculent matter, and he retained a nutritive injection. Sacrum and several parts of right side livid and sphacelated.

April 1st.—Continued in the same torpid state till 5, P. M., and then died without a struggle.

Sectio Cadaveris.—The membranes of the brain were generally healthy, but a portion of the arachnoid on the right side was a little thickened.

The whole of the right hemisphere was softer than the left, but the anterior and middle lobes were in a morbid and pulpy state.

In the right ventricle there was no water; but the surface of the thalamus nervi optici was covered by a soft pulpy mass, easily removed.

The left ventricle contained some fluid, and the choroid plexus very much distended. Some vessels were also seen rami-

fied upon the parietes of the ventricle, very much injected with blood.

At the basis of the brain there was a considerable effusion of fluid.

The other viscera were not examined.

This forms a striking contrast to the preceding case, especially in the remarkable affection of the mental faculties, and the subsequent paralysis. When admitted he had much the appearance of a maniac; and when his violence subsided, his manner was altogether such as excited a strong suspicion of his feigning many of his symptoms. On the 23d his singular mode of lying in bed showed that the muscular power of the left side was in a great measure lost; and on the evening of the 28th the paralysis of that side became more decided, after an accession of mental excitement. The joints of the affected side were not, as usual, supple and relaxed, but remarkably rigid, as if the flexor muscles were incapable of extension, corresponding to their state in catalepsy. Here, as is commonly the case, the disease existed in the opposite side of the brain from that affected with paralysis.

The disease evidently consisted in an acute inflammation of the substance of the brain terminating in disorganization. The exciting cause was not ascertained; but it appeared that he had immediately before walked from Dundee to receive his pension at Edinburgh.

Case III.—*Disorganization of the Cerebellum producing Paraplegia.* Communicated to Dr Duncan, jun. by Patrick Murphy, M. D.

Jan. 1st.—D. H. æt. 29, bookbinder, (a patient at the Royal Dispensary.) About three weeks ago began to be affected with numbness of the lower extremities, succeeded by partial loss of sensation, and of motion, (greatest in the right side,) commencing at his feet, and gradually extending upwards towards the trunk, the lower part of which is now become affected. The debility of the lower extremities is at present so great that he is unable to support himself, and he fell several times to-day when returning from his work-shop. There is scarcely any œdema to be observed. He is sensible to the natural calls for the alvine evacuation, but, since the numbness extended to his trunk, has lost the power of retension. There is no incontinence of urine, but a greater exertion than usual is required for its expulsion.

There is no pain of head, giddiness, or affection of sight or

hearing; but his countenance has an expression of absence and stupidity; and, although his answers are perfectly rational and explicit, he seems unwilling to be troubled with questions, and answers them in the fewest terms, and, as it were, with an effort like a person spoken to when half asleep. He has a considerable disposition to *drowsiness*, to which he has been observed to betray a greater tendency than usual for these three months past, so much so, that when he came home to his meals, he consumed every leisure moment in dozing in bed.

There is no pain nor swelling in the course of the spinal column; and he is not aware that he ever received an injury on that part.

Complains of severe pain of breast, preventing a full inspiration.

Pulse 100, full and strong; tongue foul; appetite good.

Jan. 13th.—The paralysis has gradually extended over the trunk, and to the upper extremities, which are become nearly powerless. The right arm is most affected. He has lost all power of motion of the lower extremities, and all sense of feeling, unless to a very slight degree in the upper part of the trunk, and in the head. He has had for these few days some pain about the right side of the inferior maxilla, extending a little way up the cheek. The paralysis in the other parts of the body was preceded by diffused fugitive pains situated in these parts. Feces passed involuntarily and unconsciously. Urine dribbled from the bladder, which is much distended. There is considerable difficulty in inspiration, unattended with pain, and seeming to arise from paralysis of the muscles. He still retains the power of speech; his intellect is unimpaired, and he expresses himself sensible of the approach of death.

14th.—He died this morning.

The treatment consisted in the exhibition of laxatives, a bleeding from the arm, a sinapism applied about two days ago to the spine, and a blister last night (13th) to the nape of the neck; to the two latter he was altogether insensible. About two quarts of urine were drawn off by the catheter last night.

Dissection, Jan. 15th.—The veins of the dura mater appeared rather more distended with blood than natural. The medullary matter, exposed by making a horizontal section of the brain, presented a whiter and more blanched appearance than any of the gentlemen * present remembered to have witnessed be-

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* Dr Duncan, jun. Mr Lizars, Dr Moore, Mr Orr, Mr Gaulter, and Mr *Lane*.

ore. The cerebrum was also much softer than usual. The ia mater covering the *cerebellum* was very much thickened, and converted into a yellowish gelatinous-like mass. The *cerebellum* tself was *softened to a remarkable degree, being in a state nearly approaching to suppuration.*

The abdominal viscera were perfectly healthy, with the exception of slight traces of inflammation in a small portion of the ntestines.

The spinal marrow was not examined.

The deceased had never at any period been subject to headache, on which account his father, who stood by at the dissection, with difficulty permitted the head to be examined. He was reported to have been a young man of sober regular habits.

CASE IV.—*Abscess in the Cerebellum, with Chronic purulent discharge from the Ear.*

D. S. ætat. 19, a smith, was admitted on the 31st August 1820 into Queensberry-House.

His complaints were intense headache, tenderness of abdomen, and great prostration of strength, pulse 60. These were treated with blisters and purgatives, but suffered no abatement, and terminated fatally on the morning of the 5th of September.

Dissection.—A considerable portion of the small intestines were found to be inflamed, which accounted for the pain referred to that region. Nothing else worthy of notice presented itself in the abdominal or thoracic cavities.

On opening the head the cerebrum was observed to be sound; in each of the lateral ventricles there was about a tea-spoonful of fluid.

Nearly all the right lobe of the cerebellum was occupied by an abscess containing about ℥ij. of thick pus.

When the temporal bone was examined no traces were found either of the membranes or bones of the tympanum. The cavity of the tympanum was found filled with pus, and a bunch of little red bags containing fluid, and adhering by a stalk to the side. There was a cylindrical absorption of bone in the petrous portion of the temporal bone, which was softer than usual, extending from the transverse sinus across to near the cochlea.

History, as given by his sister after the dissection. Two years ago his right ear was pulled for him. Ever since he has had severe headache and deafness of that side. Occasionally there was a thick yellow discharge from that ear, and then he enjoyed better health; latterly his judgment became impaired.

CASE V.—*Suppuration of the right anterior Lobe of the Brain, with chronic habitual discharge from the Ear, terminating in a tetanic affection.*

J. A. ætat. 21, shoemaker, admitted into Queensberry Fever Hospital 14th November 1820. When between six and seven years of age his right ear began to discharge thick yellow pus, in consequence, it was thought, of cold. The affected ear, viz. the right, has continued to run ever since, with occasional intermissions of weeks or months. His health has been generally good, and not affected by the state of the discharge, which sometimes changed from thick and yellow to a thin and watery fluid; occasionally a little blood was observed to flow. Five weeks ago he complained of violent shooting pains in the affected ear; this led to the use of poultices and tepid injections. The pain soon remitted, but the jaw of that side quickly became affected, as his friends thought, with rheumatism. When the pain of his ear remitted some blood flowed, and the purulent discharge became much increased in quantity. His complaints for nearly three weeks continued to be the fixed pain of the jaw, together with great constipation of his bowels, having had but one stool in twelve days, notwithstanding purgatives.

About ten days ago, after being exposed to cold, he suddenly complained of intense headache; his head was bent forwards upon his knees; he lost his voice; in about seven hours the pain went off, and his voice returned. After this he complained of oppression only, *but, as his father expressed it,* was not himself again.

Two days after this last attack he was brought into Queensberry-House. His complaints were obstinate constipation, slight headache, pain of back and body, stiffness and slight curvature of neck backwards, also delirium of a mild kind. Purgatives, venesection, and antispasmodics were freely used; frictions and stimulants were applied to the spine, but all in vain. Bowels were freely opened, but his other complaints increased. His neck was obstinately drawn back; his delirium became violent, singing almost incessantly, and upon the fifth day from admission he died.

Dissection.—In the thorax and abdominal cavities were found lb. iv. of bloody extravasated fluid, with effusion of serum below the peritoneal coat of the bladder. The first turn of the duodenum contained about lbss. of dark coloured fluid. At this part, both externally and internally the coats of the intestines were thick and black. The pericardium contained about

℥ij. of serum. The posterior mediastinum was much infarcted with black blood.

The spinal marrow from the medulla oblongata to the second or third dorsal vertebræ was softer than usual. The meningeal linings from this place downwards were much distended, and on slitting them freely open ℥ij. of pus gushed out. This had dissected and separated to some distance the fibres of the cauda equina.

The base of the brain presented an astonishing appearance of disease. All the nerves at their origin were encircled with pus; a part of the right anterior lobe was discoloured, opposite to the dura mater, which was absorbed; a large abscess was found in this lobe, containing thin pus, and portions of cortical substance; the lateral, third and fourth ventricles all contained pus. The petrous portion of the temporal bone was filled with pus.

CASE VI.—*Extensive Suppuration of the Cavities of the Petrous Portion of the Temporal Bone, with Chronic Discharge from the Ear.*

J. M. ætat. 45, married, by trade a mason, of a robust and, to appearance, healthy habit, though at present suffering from ill health.

Nov. 11th.—Twenty years ago his left ear, owing to cold, as he thinks, began to discharge matter, and has continued to do so, more or less, ever since. He has been very susceptible of cold, and always suffered from it in his ear. On those occasions, after violent pain, thick matter was discharged. When most healthy, the fluid discharged was watery; sometimes it was bloody.

Five weeks ago he crossed from Leith to Kinghorn in an open boat. As he sat on the high side his left ear was exposed to the wind and spray, the day being tempestuous. No bad effect was perceived from this exposure, until two nights after, when severe shooting pains were felt all through the left side of his head. In the morning these went off; next night they returned, and again left him; and this course they continued to follow for rather more than four weeks, regularly making their attack at 12 o'clock, P. M. and retiring at the approach of light. During the day he was pretty well.

About a week ago the shooting pains left him, but were succeeded by a fixed constant severe pain, extending from near the foramen magnum to the extremity of the sagittal suture. This day the pain has shifted more into the affected side, and left the mesial plane. During the first stage of this attack, viz. that

attended with shooting pains, the discharge from the ear was increased, but continued thin and watery; however, upon the pain becoming stationary, some blood came away, and then a very copious flow of thick pus. The same fluid came also from the nose in considerable quantity. The integuments and glands in the vicinity of the ear are swelled and inflamed. Pulse 92; tongue clean; bowels regular. No sleep for the last five weeks. He has not heard by the left ear since he became affected.

22d.—On the 12th the pain began to abate; some sleep was obtained; the discharge diminished; and he walked about in tolerable health. Four days ago he was suddenly seized with violent pain over his eyes, which has continued ever since, confining him to bed, and totally depriving him of sleep. The purulent discharge increased with the pain, and was sometimes coloured with blood. He was bled yesterday to ℥xvi. Blood much buffed; pulse 104; bowels regular.

30th.—For some days before death he ceased to complain of headache, and referred all the pain he suffered to the neck on the affected side. The integuments were red and tense, and a dull sense of fluctuation indicated the propriety of an opening, which was made a little below the insertion of the sterno-mastoid muscle. Blood, pus, and air issued out in abundance. Considerable improvement, both in external appearance and internal comfort, followed, but soon gave place to low delirium and death.

Dissection.—Brain. There was a slight appearance of effusion below the arachnoid coat. Many parts of the brain, particularly on the left side, were of a livid aspect. On the same side it was throughout softer than usual, and when cut into, displayed the same dark hue. It was observed to smell strongly of pus. What has now been said applies equally to the cerebrum and cerebellum.

The cavernous sinuses were filled with matter of a grey colour. The body of the sphenoid bone, particularly on the left side, was carious; through it a probe could be passed downwards out of the cranium, and backwards into the petrous bone. All the part of the temporal bone under the insertion of the sterno-mastoid was carious; through it a probe could be passed quite across the petrous portion, which was filled with pus. The carotid canal and posterior lacerated holes were engaged in this part of the disease. The carotid artery was externally coated with pus, and the cuneiform process of the os occipitis was carious. Indeed, it may be stated generally, that all the base of the cranium answering to the left and middle lobe of cerebrum was so.

An extensive collection of pus was found under and in the substance of the sterno-mastoid muscle. It had dissected the cervical muscles, and descended far down the back beneath the trapezius muscle.

For the histories of the three preceding cases and dissections, I am indebted to Mr Syme, at that time senior clerk in Queensberry fever hospital, where the two first were patients under my care. The third case was a private patient in the neighbourhood. The dissections were all performed by Mr Syme in my presence, and Mr Liston assisted at the last.

The coincidence, at one time, of so many instances of Otirrhœa purulenta; for besides these three fatal cases, I had a female patient in the clinical ward of the Royal Infirmary who was dismissed relieved, is worthy of notice. But the fact is, that the disease is much more frequent and more serious than is commonly believed.

My attention was directed, many years ago, to the importance of habitual purulent discharge from the ear, especially when it alternates with intense headache or stupor, by being present at the dissection, by my friend Mr Wishart, of an old woman, who died with symptoms of oppression and affection of the brain. At our first examination of the brain, conducted in the common way by opening the lateral ventricles, and tracing the parts anatomically, the disease escaped detection, and the first morbid appearance which we discovered was a minute caries of the temporal bone, through which a probe easily passed out by the external meatus. On examining the basis of the brain, there was discovered, on the surface of the middle lobe, and corresponding with the caries, a small hole plugged up with some purulent matter, which communicated with a cavity, in the substance of the brain, of considerable size, but with collapsed sides, and containing little pus, which was the reason of its escaping detection. Upon inquiry, we learned, that this woman had been many years deaf in the ear of that side, in consequence of its having suppurated from cold when a young woman, and that she had ever since been affected with a discharge from that ear, unless when, from taking cold, it was suppressed; and she then suffered extremely until the discharge was renewed. This woman's son had also habitual discharge from one ear, with deafness of that side. Her case is another example of that variety to which No. IV. of the present series belongs.

Another form of the disease resembling No. VI. soon after occurred to me; but as I did not see the patient during life I did not preserve notes at the time; and my recollection of it is not

minute as to circumstances. The man was supposed to have died of pneumonia, and there was actually great inflammation of the pleura found on dissection; but he had also deafness and purulent discharge from the ear, and we found purulent matter under the aponeurosis, and between the muscles behind and below the ear. The cells of the mastoid process were filled with matter, and the dura mater corresponding to the pars petrosa of the temporal bone was inflamed and covered with pus.

I have since met with several cases of otirrhea or purulent discharge from the ear, with deafness and occasional intolerable headach or stupor, in which, although the patients survived, there could be little doubt of the deep-seated nature of the disease, especially when we compare the symptoms with those of the cases in which examination after death afforded an opportunity of ascertaining the real nature of the disease.

Although perhaps not sufficiently attended to in general, cases of otirrhoea connected with destructive affection of the internal ear or brain, have been described by authors. *

From the consideration of the cases I have examined and read, it appears to me that chronic suppuration of the ear arises from many different causes. 1st, From external injury, as bruises and fracture; 2dly, from cold; 3dly, as a sequæla of fever and febrile diseases.

It may either originate in some part of the ear itself, as the membrane lining the meatus, or in the Eustachian tube, in which case the danger arises from the bone becoming carious, the cells getting filled with pus, the internal table of the temporal bone becoming carious and eroded, and the inflammation being communicated to the membranes of the brain, or to the brain itself. This mode of the disease is most probably that which occurs when it proceeds from external injury or cold, and when it commences with acute otitis. It may also commence in the brain itself, in which case the progress of the symptoms will be different, more resembling those which arise from concussion, and in this case the otitis or affection of the ear is only secondary, in consequence either of the matter working its way outwardly through the temporal bone into the ear, and then assuming a chronic form; or of the inflammation of the dura mater being communicated by sympathy to the internal membrane of the ear, without any direct communication.

* Besides the excellent papers of Dr Abercrombie, inserted in the 14th and 15th volumes of this Journal, I may here refer to a very interesting and detailed Essay by Rostan, entitled, "Sur une Maladie peu connue qui a reçu le nom de Ramollissement du Cerveau," inserted in the Nouveau Journal de Medecine for September, October, and November, 1820.

II.

An Account of certain Diseases, lately prevailing in Alford, Aberdeenshire By Alexander Murray, Surgeon.

Sir,—If you consider the following description of certain diseases which lately prevailed in this place, to contain any thing worthy of notice in your excellent Journal, I presume to request its insertion. The diseases which I mean to notice, are in themselves sufficiently important, and to some of them particular attention has of late been paid; hence a description of such diseases, as occurring in this, or any other situation, may not be devoid of interest.

Alford is a valley in Aberdeenshire, nearly circular in form, and almost completely surrounded by hills,—its circumference being about 20 miles. It lies in a direction west, and a little north from Aberdeen, more than 20 miles from that city, and at a greater distance from any other maritime point. This valley, through which flows the Don, a river of considerable size, consists of land mostly in a state of cultivation; it contains little moss, but a good deal of heath, and many small eminences, now covered with young wood in a thriving condition. In winter the cold is severe, the thermometer of Fahrenheit being occasionally so low as 8, and even in summer, frosts of very short duration are not uncommon. In this tract of country, which is entirely an agricultural district, there is at present comparatively little poverty, probably no where such as to occasion very distressing privations. The general habits of the inhabitants are such as is common throughout Scotland.

During the greater part of two years I have had an opportunity of observing the diseases of this place. The following description of some of the diseases which occurred in the above period, is brief and incomplete, but I believe not inaccurate.

Typhus fever appeared here in the end of June 1819. The person first affected was a woman, who came ill of the disease from a place at some distance where contagious fever prevailed; and I saw no other until the beginning of September, when two persons living in the house with the first patient took the disease. Before the end of November, twelve cases had occurred, all unquestionably derived from the person who first had the disease. From November no new case was seen until February 1820. From this period the disease continued to autumn.

In August of that year, I visited ten cases, the greatest number which I saw in one month; and since that time no instance of typhus has taken place. More than fifty cases occurred in the above time.

The symptoms of this fever were far from violent, nor were they in any respect very remarkable. In most the disease commenced in a gradual manner, and in several, there was neither frequency of pulse, nor heat of skin, during the attack. Perhaps of all the symptoms, an extreme aversion to motion and a feeling of sinking were those most universally present. The pulse varied from natural frequency to 150; in one instance it kept for twelve weeks at 120. Delirium was very rare, but slight stupor, deafness, and inattention to surrounding objects, were not uncommon. The bowels were in general confined, but sickness was seldom urgent. The tongue was often slimy, but never dry. In one case, where death occurred after twelve weeks illness, the tongue was, throughout, clean and moist. In cold weather, a teazing cough was always present, sometimes accompanied by pain of breast;—excepting this last, and headache, there was no severe local affection. The duration of the disease was from one to twelve weeks and upwards; but no marked crisis was observed, for the recovery in general advanced by imperceptible degrees. In one patient only was there any injury of parts from pressure. Of the number affected, two died, both adult females; one after ten weeks, and the other after more than twelve weeks illness. The number of males and females attacked was nearly equal. None above forty, nor under three were affected; except in one family, where six were at the same time confined to bed; of this number, were a man aged sixty, and a child three years old. I saw only one case of relapse, and in no instance was any one twice affected. Indeed, from some examples of remarkable exposure, I should think the susceptibility much diminished by an attack.

Bloodletting was practised in about twenty cases, and in no instance was its adoption regretted. In several of this number, it was resorted to mainly with the view of relieving local affection, as pain of the chest, and on this account it has several times been practised late in the disease, in one on the 18th day, and in others on the 10th, 9th, &c. In these instances, the quantity drawn never exceeded eight ounces; and although it relieved the symptoms against which it was used, it produced, at this period, no general improvement of the disease, nor the contrary. In the greater number, however, the period of the disease was earlier, and in these many symptoms, as headache, pain of back, and incipient delirium, were much relieved. The

pulse has many times become slower and fuller after bleeding, and the patient has expressed immediate abatement of oppression and pain; but in no case have I known the disease suddenly cut short by this or any other means. The general amount of the bleeding was twelve ounces. The largest quantity taken was fifty-eight ounces, abstracted at four different times. In this case, the headache and pain of back were very intense, and the buff on the blood first drawn was I think thicker than I ever observed; and as inducement to the successive bleedings in this attack, I had, besides other reasons, the earnest request of the patient, founded upon his previous experience of its effects. Ablution with cold water was advantageously practised; but the temperature was seldom so high as to admit of that marked benefit, which sometimes results from this application. Purgatives were assiduously used throughout the disease. In a few instances, salivation was attempted, by giving each day, for some time, about twelve grains of calomel, combined with opium, but in no instance have I effected my purpose. It would seem that in typhus, something prevents this effect, for, by a similar mode, I have, in the sequel of acute inflammations, readily excited salivation. Diaphoretics were scarcely used. Antimonial powder was given in a few cases, but, instead of perspiration, it was found to excite an intolerable dry heat of skin. A combination of this powder with opium and calomel was sometimes given at night, and these produced an easy composedness, if not sleep, along with an agreeable softness of skin. Stimulants were sometimes tried in the latter stages of protracted cases. Wine generally excited disagreeable heat, and even slight delirium. From bark I noticed no effect, unless that of exciting or aggravating cough. Camphor preparations were in a few instances exhibited, and they seemed to refresh and remove the sensation of sinking. Opiates were given to a considerable extent, and in no point of view seemed deleterious; often, for a number of nights in succession, opiates were given with much relief to cough, in many cases a most distressing symptom. Blisters also relieved this cough, but their effect was not more permanent than that of the preparations of opium, while these could be more frequently repeated. Nothing seemed more necessary than to keep the patient strictly to bed from the first moment of attack; for the endeavour to resist being confined proved very injurious. Indeed, I suspect the event of the two fatal cases to have been occasioned by imprudence of this sort.

In October 1819, *measles* appeared, and prevailed extensively for several weeks, but in no instance, within my knowledge,

was death occasioned by this disease. Blisters put on the chest were found in several instances to remove the most laborious, even spasmodic breathing. Even in the youngest children they were used without any bad effect, but then they were applied only a very few hours; a precaution necessary to be kept in view as one infant sunk under a blister, kept on longer than was directed. A bad pulmonic affection occurred, under the following circumstances. The father of a family had scarlet fever, and found relief from the ablution. In a few days, his son, a boy of nine, living in the same house, became feverish, to which state a redness of skin succeeded. The complaint was decided rubeola, but on the supposition of its being the same as his father's, the friends used washing with cold water. Soon after, an affection of the chest, the most severe I think which I saw during measles, came on.

Small-pox appeared about the time that measles began to subside, viz. in the beginning of December 1819. Nearly thirty cases of the disease occurred, within my knowledge. Of this number four died. The two first who had the disease were brothers, and both died, one on 17th, and the other on 15th day of his illness. They had been vaccinated by a medical practitioner twelve years before, a circumstance which excited here much doubt of the prophylactic power of cow-pox; a doubt which the subsequent occurrence of a modified small-pox in the vaccinated has nearly removed. In the first of the young men now referred to, the disease was so far advanced before I saw him, that a cow-pock mark, if any existed, must have been obscured by the variolous eruption. In the other, however, I certainly did see a mark similar to what follows genuine cow-pox, viz. a round pitted cicatrix of the ordinary size. The friends informed me, that when vaccinated, each had pocks like others whom they saw, and that no matter was taken off their arms. In another case of undoubted small-pox in a young man, vaccinated also twelve years before, I saw on his arm a mark, which still exists. This is circular and deeply indented, but it wants the small granular impressions, reckoned desirable after the cow-pock vesicle. A young lady likewise took small-pox, on whose arm two marks were seen, but these were merely dotting of the skin, without definite margin or distinctly marked scar. These marks are still more obscure since the small-pox took place.

Since July 1819, this place has been twice visited by a pock different from the eruption of variola. This was, in both instances a slight affection, so that, in general I saw it only by chance, or heard of it after its disappearance. I am sorry that,

for this reason, I am unable to describe it so minutely, as, from the importance of late attached to this subject, might be desirable.

In July and August 1819, the following disease appeared in many children, both vaccinated and unvaccinated.—A febrile state, lasting about two days, ushered in an eruption, which began with red spots. The centre of each spot speedily became elevated, and on this rising, a clear speck was soon discernible, which afterwards assumed the vesicular appearance. The perfect appearance thus was vesicles, each having redness around its base. This eruption began on the forehead and back, and appeared in successive crops, but by the fourth day it was nearly all quite faded. In one instance slight marks were left, which still exist. I have since vaccinated six, all of whom I saw ill of this disease; of this number, four who had not previously had cow-pox, took the disease, (*i. e.* cow-pox,) while those who had formerly been vaccinated, were not affected by this second operation. During the occurrence of the above disease, I have every reason to know, that not a single case of small-pox existed in this country.

Again, during the prevalence of small-pox, in the end of the same year, a disease, undoubtedly the modified small-pox, appeared. This occurred in those only who had been previously vaccinated, and generally existed where common variola was in the house or neighbourhood. It affected both adults and children. In most respects this resembled the disease last described, but in the affection now noticed, I thought the vesicular membrane more pellucid, and the contents more turbid, than in the epidemic of July. In that accompanying small-pox, also, I observed a clear speck in the middle of several of the vesicles, which I did not, at least, observe in the other. In one case, the pain of back and head, with sickness, ushering in the above eruption, was extremely severe. Imagining the attack likely to prove typhus, I bled to the amount of twelve ounces, with instant and complete relief to the symptoms.

From observations made in this place, I should infer, that little can certainly be deduced, regarding the probable security of the individual from the appearance of a cow pock mark, and that the common attention to the progress of the vaccine vesicle, though sufficiently laudable, is perhaps of less importance than is supposed. It is now only seven years since a medical practitioner first resided in this vale. For many years before, however, many of the inhabitants were vaccinated by surgeons at a distance, who most probably, in no one instance, saw the person after the operation. Farther, it was I believe, very general

here, for the common people themselves to perform vaccination, with needles, &c. and to allow matter to be taken off their children, by as many as chose. Many such marks as an irregular scar, without central pits, resembling in superficial aspect the mark of a burn, are here to be seen. Notwithstanding all these circumstances, no instance of small-pox after vaccination, unless those I mentioned, occurred. I have vaccinated a few who had marks of previous vaccination, which might have been accounted good, in whom this second operation produced pocks of perfect appearance and progress; while on the other hand, repeated vaccination of those who had imperfect marks, has produced no satisfactory appearance. If there is only one cutaneous affection, which is genuine cow-pox, of unvarying appearance, progress, and effect, in leaving one particular mark, the circumstance is an anomaly in the history of diseases of the skin.

In one instance here, vaccination proved a security from small-pox, under circumstances where its benefit could not have been sanguinely anticipated. In a family of six children, one took small-pox. After the eruption had fully appeared, the others were vaccinated; the operation took effect in all; and, though living mostly in the same apartment with their sister, ill of the disease, not one was infected.

Another epidemic, of more extensive prevalence than any of the others, succeeded the contagious fever. About the middle of last summer *scarlet-fever* showed itself here, and from that time until February last, it never disappeared. I can now bring to remembrance 160 cases, of which I saw the greater part; and, I doubt not, that, in the period mentioned, more than 200 were seized with this disease, in the tract of country to which these observations refer. In these 160 cases, the number of adults and children affected was nearly equal. All ages, both of males and females, underwent the disease; 90 were females, and 70 males; 16 died, viz. 14 females and 2 males, 6 being adult, and 10 under 13 years of age; of these 6 adults, 3 were women immediately after delivery.

The disease, as it here appeared, might, in adults, be referred to four principal modes of appearance, of which the two first and two last respectively might be considered as varieties of the same species; and although there were cases bearing an intermediate character, these forms were in general sufficiently marked.

In the first form, the attack commenced with the simultaneous occurrence of chilliness, pain in throat, feebleness, weariness, and slimy tongue. To these, in the course of twenty-four hours,

frequency of pulse and thirst, with redness of skin and heat, supervened, although the two last mentioned symptoms were not universally present. The disease, of this appearance, ran its course, according to the slightest form of scarlatina, as generally described.

In the second variety, the pain and swelling of throat were greater, and the pulse fuller, stronger, and generally slower than in the other. The tongue soon became very dry and hard, and the secretion of mucus in the mouth and throat considerable. The bowels had a tendency to constipation, and headache was, from the first, much complained of. The other symptoms were, in common, similar to those of the first variety, and in general they subsided in the same manner as in the other. In severe attacks, however, of this kind, a hurry of ideas and of speech, with some alteration in the tone of voice, existed from the beginning. The patient soon became slightly delirious, on the approach of night. The tongue became drier and assumed a blackish hue; sordes collected upon the teeth; while the pulse lost its strength and became very frequent. In only one case of this form did a fatal termination take place, and in this instance the bowels were remarkably neglected for many days. In this patient, after the symptoms mentioned, the eyes became red, the delirium verged to stupor, and picking of the bed-clothes, with much *subsultus tendinum*, was the precursor of death.

In the third variety, (or first variety of second species of attack,) the symptoms of oppression existed in a high degree. The patient was seized with chilliness, sometimes amounting to rigor, great feebleness and sickness, rarely inducing vomiting. The succeeding eruption was never complete, but appeared faint, or in the form of spots. The pulse after a day or two often intermitted remarkably, but was full. The pain of throat was trifling, but mucus collected here and in the mouth in great quantity, and was very troublesome. After a few days the tongue became dry, and sometimes sordes collected on the teeth, while not unfrequently a diarrhœa also took place, and seemed injurious. In no instance of this form, did death ensue. The pulse lost its intermission; the diarrhœa abated; the mouth regained its moistness, and the eruption was more fully evolved. Upon the occurrence of these symptoms, recovery went gradually forward. It was always long before perfect restoration to health took place; and very often after convalescence was begun, a painful affection of the joints, especially in the wrists and fingers, gave rise to a renewal of fever, and retarded recovery. Severe attacks of sickness, sometimes amount-

ing in appearance to a faint, were common in the latter part of this form.

In the fourth or last variety, the patient was always found in an uncomplaining state, affected with extreme prostration of strength, aversion to motion, and indifference to surrounding objects. The countenance assumed a waxen hue, and was strongly expressive of vacuity and insensibility. The pulse was feeble and rapid, sometimes 145. The tongue was always moist, and the mouth filled with viscid mucus, which formed into a ropy appearance, on the mouth being opened. Sometimes vesications, rarely blackish, were seen on the velum pendulum palati. Eruption was generally absent, but in one case it appeared of livid hue; and in one or two, a faint efflorescence spread over the breast and forehead, and in these cases the face was swelled. After a day or two the pulse became remarkably intermittent, or altogether imperceptible; the extremities cold; diarrhœa made its appearance; the respiration became laborious, and death ensued before the conclusion of the fourth day. Ferrety eyes and much jactitation in one case preceded death. All the adults who died, with one exception, had this form, and from no fully marked attack did recovery take place. Of six who died of this form, two were women, a day or two after delivery, and other three women with infants at the breast.

In infants and children, the varieties of appearance which I have attempted to describe were not to be perceived. In these, the attack commenced with paleness of face and aversion to food and exercise. In most an eruption appeared at the usual time; the heat of skin was increased, and the thirst great, while the saliva flowed often profusely from the mouth. A degree of drowsiness soon took place, and where recovery followed, it was generally accompanied by a gradual resolution of the eruption and the coma. In a few of the fatal cases, in infants, death took place after an increase of the drowsiness, with convulsions, and an abundant discharge from the bowels of dark green fetid matter. In most death did not take place until many days had elapsed; sometimes not sooner than the third week. In these protracted cases, the body was much emaciated, and the skin of the face peculiarly shrivelled; and then the immediate cause of death seemed, in more than one, to be an exacerbation which arose from the glands of the neck swelling.

To speak, in a general way, of these different attacks of scarlet-fever, in adults and children, I would make the following observations: The accessions of this disease differed remarkably in their mode from the slow, insidious manner in which typhus

approached. The degree of severity was marked from the first, and within a few hours from the person being seized, the violence, and event of the subsequent disease could, with tolerable certainty, be predicted. The eruption was, in general, uniform, but it has sometimes existed on circular spots, while the interstices were of a natural colour. The redness has sometimes disappeared suddenly; and I think both this and the last circumstance were only seen in severe attacks. The eruption was commonly smooth, but, in a few instances, elevations have been noticed, which might be named large red papulæ, occasioning more roughness than I have ever seen in measles. Previous to desquamation, the white morbid cuticle was often raised in the form of very small round elevations; and around the throat, where hartshorn had been applied, and on places peculiarly liable to pressure, as the elbows, large vesicles, containing a turbid liquid, were sometimes seen. The morbid cuticle, on coming off, generally showed its place supplied by a new scarf skin, but in more than one instance the cuticle was easily rubbed off, and disclosed a soft pulpy cutis vera. About twenty cases occurred where no eruption could be detected. I have observed no unvarying connection between the state of the eruption and the severity of the disease, for death has occurred under all the following states of skin, viz. redness, such as commonly attends scarlet-fever,—vivid redness,—a dark red or deep purple or livid colour,—a very faint redness,—and an entire absence of cutaneous discoloration. I have also seen mild attacks, attended by all these different states of skin, excepting the purple one. The desquamation alone has seemed necessarily connected with the cutaneous inflammation, being speediest and most complete where the redness was greatest and most extensively diffused. Where there was no redness, no exfoliation of cuticle took place. The temperature was not measured, but I may mention, that, though many complained of great heat, a greater number had no steady feeling of this kind, while some throughout the whole attack had occasional shivering. In both this and the typhus fever, the sensations of the patient, with respect to heat and his actual temperature, seemed very much influenced by the state of the atmosphere. The pain and swelling of throat was less than is common in severe cynanche tonsillaris, and if this symptom bore any proportion to the danger from the disease, it was an inverse ratio. Much uneasiness always arose from a collection of viscid mucus in the mouth and throat. In the fourth form of the disease, in particular, the quantity of saliva and mucus in the mouth was great, which seemed to arise, in part, from these secretions being in this variety greater than in

the others, but mainly from an insensibity to this stimulus,—whence the feelings, which, in other cases, led to their expulsion, were not experienced. In many instances, the difficulty of swallowing was great; and this seemed to arise, in a few instances, from pain of fever, from swelling, but most commonly from a rigidity of the lower jaw, and parts concerned in deglutition. On the tonsils and uvula whitish specks were common, seldom arising from ulceration, but, in general, from lymph there deposited. The roof of the mouth was commonly red, and in several vesications (in a few instances blackish) were observed on the velum pendulum palati. The tongue was often moist and whitish—sometimes clean; it was often dry and hard in severe cases, and then its colour varied from black to brown, or a yellowish tint. When, under these circumstances, a favourable change took place, the hard state was converted into a moist one, and the papillæ were then commonly very prominent. A subsequent exacerbation often converted this improved appearance of tongue into a smooth glossy state. Black sordes sometimes formed on the teeth, and this, as well as dryness of tongue, seemed connected with sensorial disturbance. An affection of the joints was mentioned as not uncommon in the last stage of this disease. This was a swelling of the wrists and hands, less commonly a similar affection of the knee-joints and other articulations, attended with much pain, and feeling of want of the power of motion. This, in general, went off in a few days, but, in one instance, it seemed to be converted into a permanent paralysis. Affections of the chest or belly were very seldom observed in this fever. After the disease, several instances of matter issuing from the ears, and of suppuration in the submaxillary glands were observed, but only twice or three times did I know the internal inflammation of the throat terminate in the formation of matter. In a very few cases only I saw swelling of the feet after the disease. The following seems, however, an instance of internal and external dropsy, following scarlet fever: A boy, aged nine, having, a few weeks before, had scarlet fever, was found labouring under the following symptoms, from which, in a few days, he died;—œdema of feet, hands, and face; great difficulty of breathing; pale countenance; urine very scanty, and frequently voided; pulse 150 In protracted cases, a peculiar smell was very perceptible.

Washing with cold water was in many instances of this fever made use of, but, from the comparatively low temperature of body, the relief hence obtained was not great. The cold affusion was not tried: I believe it is now in this, and all other diseases, entirely laid aside.

Bleeding was but rarely practised, but from its effect in a few cases, wherein, towards the conclusion of the epidemic, it was tried, I would, under similar circumstances, adopt it more frequently. I have bled adults about twenty-four hours from the commencement, in all the forms except the last; and in the first and second varieties, the benefit has been very decided. In these instances the recovery was always—cæteris paribus—much more rapid than on any other occasion. In the second variety I have seen the dryness of tongue, rapidity of speech, and incipient delirium, almost immediately removed by the detraction of eight or ten ounces of blood. In the last variety described, if admissible at all, bleeding I think could only be practised in the earliest periods of attack. When the pulse has assumed the very feeble or imperceptible beat, and coldness of the extremities taken place, both of which sometimes occurred on the first or second day, blood-letting would probably only accelerate the fatal termination. On the whole, my small experience of bleeding in scarlet-fever would lead to the conclusion, that it is a remedy of much promise in certain circumstances of this disease, but requiring, in its adoption, much attention to existing circumstances.

Purgatives were not omitted, but I was somewhat disappointed in the degree of benefit derived from them. In the second form they seemed most serviceable, and they were useful also in the first variety. In the third and fourth forms I could perceive no benefit from active purges, but rather the reverse.

Emetics were frequently employed, and they only gave relief to the throat, obstructed by swelling or mucus, and their effect in this way was generally very great. In the variety attended by great depression and apathy, the strongest emetic had sometimes no effect, and in this case, even before any appearance of delirium or coma existed, the throat was nearly quite insensible to the tickling of a feather. In several instances emetics have been used three or four times, with much pleasant effect; latterly, however, they have been exhibited only in very urgent obstructions of the throat, for in a few cases they left a distressing and long-continued sickness; and I think I have known them increase the tendency to sensorial derangement. Besides emetics no internal application afforded much relief to the throat. The vapour of hot water sometimes relieved the rigidity of parts; and olive oil, or the oily mixture, somewhat removed the tenderness of mouth. Stimulating gargles could not be borne.

As external applications, ammoniated oil, blisters, and sina-

pisms were applied: the first of these, if begun early, and diligently used, seemed as serviceable, and was less painful than the others.

Nothing seemed more necessary than to watch and check the tendency to sensorial disturbance. With this view the head has been shaven, blisters applied to the nape of the neck, sinapisms put to the feet, and warm fomentations to the legs. Of these the two first used in conjunction seemed the most useful. In infants and children, in whom danger was always ushered in by drowsiness and coma, these symptoms were often removed by a blister put for an hour or two to the back of the neck. The affection of joints was often very distressing, but was commonly removed by warm fomentations. In more severe cases antimonial powder, with a minute portion of calomel and opium, exciting diaphoresis, generally carried it off.

Stimulants, as wine, brandy, and sulphuric æther, were used in the latter stages of the 3d and 4th forms. Sometimes they seemed useful; but on other occasions they appeared to raise a fallen pulse, only that it might sink more completely when their immediate effect was over. In certain states their effect was so equivocal, the pulse improving, while the tongue became harder and blacker under their use, that it was difficult to say whether they were beneficial or otherwise. In one case, of the worst form, I thought to save a patient by wine, but was disappointed. Forty eight hours after attack, her pulse was imperceptible; extremities cold; and she lay in complete stupor. On the exhibition of a few glasses of wine, given in small doses, the pulse and heat became natural, and her senses returned. In a few hours, however, she became confused and delirious; the eyes turned red; and she again soon relapsed into stupor. This effect of excitement seemed as easily removed as induced; for, upon strong sinapisms being put to the feet, she again revived, and the bad symptoms went off. An attack of pained joints, occurring in her very weak state, exasperated the fever, and she ultimately sunk. In fine, it has appeared that there are cases of scarlet-fever, wherein stimulants are admissible; but then the situation is very desperate.

Though I have nearly confined myself to mere matters of fact, these observations have extended to a greater length than was contemplated. On this account, some general observations, which I wished to make, must be omitted. I would only now observe, that typhus appeared here to arise solely from contagion; indeed, the other alleged causes, as poverty, filth, &c. could not, in this place, be supposed to operate. Many clear proofs occurred of infectious diseases being communicated by

persons who had never laboured under the complaint. Among others, were several instances of midwives, previously occupied with patients in scarlet-fever, carrying the disease to women whom they attended in labour. Several remarkable contrasts, in point of susceptibility, to contagious disease, were observed; some catching it by the slightest communication, while others remained safe after the most thorough and continued exposure.

Within the last few years, typhus and small-pox, with its modified form, and scarlet fever, have prevailed in various parts of this country. Typhus, as reported by Dr Kerr, appeared in Aberdeen in the beginning of summer 1818, being brought there by a female pauper lunatic from Glasgow. "About 2400 cases," says he, "were treated in our public institutions from the 1st September 1818 to the 1st of September 1819." Scarlet fever even now prevails, or did so very lately, in several parts of Aberdeenshire.

Alford, April, 1821.

III.

Report of Cases Treated at the Ophthalmic Hospital, Chatham, communicated to Professor Thomson. By ANDREW SMITH, M. D., Hospital-Assistant.

ACKNOWLEDGE of the lively interest you take in the investigation of the diseases of the eyes would alone, without the tie of a promise made on leaving the depot-hospital at Edinburgh, have been a sufficient inducement for me to draw up and transmit to you the following account of the diseases which occurred in the Ophthalmic Hospital at Chatham, and of the means which were adopted to remove them, during the ten months in which I lately did duty as medical assistant to that institution.

Chatham, as you are already aware, is the station to which the greater part of our soldiers, from whatever cause rendered unserviceable, are sent previous to being placed upon the pension-list. They consist, in general, of men rendered unfit for farther military duties, either by actual disease or its consequences, by length of service, old age, or a general decay of the constitu-

tion, and are, with a few exceptions, persons addicted to most of those irregularities and vices which tend to produce disease, or retard its removal when once brought into action. Under such circumstances, you must easily conceive what disadvantages are to be experienced,—what difficulties are to be daily encountered,—and what extreme and constant caution is necessary in practising upon such a class of individuals.

In the treatment of the diseases of the eyes these inconveniences were particularly felt, and we had occasionally to contemplate with sorrow the ravages of disease, which experience warranted us in concluding might have readily been stopt, in persons blessed with more sound and vigorous constitutions. Amongst the instances of acute ophthalmia, which were, comparatively speaking, but few, it was now and then found impossible to carry into effect a plan of treatment sufficiently active to ward off the consequences of over vascular action; whilst in chronic inflammation, the removal or amendment of which often depended so much on the improvement of the general health, difficulties not less strong and insurmountable at times presented themselves, but which will come more in place to be noticed hereafter. The success of the treatment, however, upon the whole, was highly satisfactory,—a circumstance which was to be attributed, in a great measure, to the zeal and abilities of Staff-Surgeons Lindsay and Murray, who held successively the principal charge, aided by the judicious and very superior arrangements of the much and justly esteemed principal medical officer at the station, Dr James Forbes, Deputy-Inspector of Hospitals.

The diseases had in general been contracted on foreign stations, particularly in those of warm climates, such as the East Indies, West Indies, Ceylon, Cape of Good Hope, Gibraltar, Malta, Ionian Islands, &c. and had all of them been more or less modified by the effects of hospital-treatment, previous to their reaching Chatham. The individuals who appeared to have suffered most were those bearing marks of the scrofulous diathesis, and such of that class, particularly, whose eyes were naturally weak or full, prominent and light-coloured. The observance, indeed, of the latter circumstance, in so many instances, led me to pay considerable attention to the subject, and to endeavour, if possible, to ascertain whether eyes of any particular colour were more subject to disease than others, and the results of my investigation are contained in the following Return, No. I. To be able, however, to draw any general conclusions, it would be necessary also to determine what proportion the light colours bear to the dark in healthy eyes, which I

have done, as far as my opportunities would admit, and given in the same Return. From it you will see that the proportion of light eyes amongst the individuals of the latter description was considerably greater than what it was in those affected with disease, which certainly goes directly against the opinion I previously entertained, and which I have both heard verbally stated, and read in authors, that persons with light-coloured irides were more prone to ocular disease than those in which they are of an opposite character. Without an inquiry, however, of this kind, and carefully contrasting the numbers of each, one would very naturally be led to conclude, that light eyes were more subject to disease than dark ones, as much more than half the number of the patients which came under treatment, belonged to the first division, but not more than ought to have done, had the colour no property of predisposing to disease whatever.

No. I.

COLOURS.	Diseased Eyes.	Totals of Light and Dark.	Proportion of Light to Dark.	Healthy Eyes.	Totals of Light and Dark.	Proportion of Light to Dark.
Light Blue	45			590		
—— Grey	37		Nearly	239		Nearly
—— Brown	21		2 to 1	313		5 to 2
—— Mixture*	13—	116		358—	1500	
Dark Blue	30			300		
—— Grey	14			151		
—— Brown	13			128		
—— Mixture	3—	60		84—	663	
	176	176	2 to 1	2163	2163	5to 2

In by far the greater number of the patients the morbid action commenced first in one eye, yet in most of them the other, either from the same cause, from sympathy, or in consequence of some past excitement, sooner or later also suffered, as you will see by reference to Return, No. II. From it you will find,

* Under the head of Light and Dark Mixture, I include all those colours which appeared to be compounds of the other three, or which do not readily admit of a simple definition.

that out of 134 cases in which one eye was first affected, the other in 110 of these was subsequently attacked, some in the course of a few hours, and others not till after two, four, six, eight, ten, twelve, and even sixteen months; the most common time, however, was between the second and thirtieth day. Of the two eyes, the right, in most of the cases, was the one which first took on the diseased action, but whether that was purely accidental, or arose from its having a greater tendency to become diseased than the left, I have not yet, even from inquiries directed to the subject, been able clearly to ascertain. The night, as you will see from the same Return, appears to have been the period the most favourable for the developement of those complaints, particularly of such of them as were of an inflammatory character, which constitute by far the greater proportion of the cases. This may be accounted for, *1st*, By the great diminution of temperature and heavy dews which generally take place during the night in hot climates, and to which soldiers on guard (a situation in which many of our patients were first attacked) must unavoidably be exposed; *2dly*, By the greater chance there is of catching cold, a very frequent cause of the complaint in question, during sleep, and perhaps more or less covered with perspiration, upon being exposed to the very slightest exciting causes, such as lying opposite or near to an open door or window; and, *3dly*, By the difficulty, I may say impossibility, of foreign bodies which may have accidentally got under the lids before going to rest, making their exit during sleep, and, consequently, their retention there must produce an unnatural stimulus, which, if continued for a sufficient length of time, gives rise to a more or less severe attack of active inflammation,—a circumstance I have frequently had occasion to observe in the course of my own practice.

No. II.

Number of Cases.	Of which one eye was first affected.	Of which both were affected at the same time.	Of which one only was affected.	Number of Eyes affected during the Day.	Number of Eyes affected during the Night.	Eye first affected, and the number of each.	
						Right.	Left.
176	134	42	24	184	202	95	39

With regard to the causes of the different diseases, I may here observe, that sudden variations of temperature, exposure of the eyes to strong lights or currents of air, external injuries, mechanical and chemical stimuli, were assigned as having been the principal agents in producing the morbid changes observed. As these, however, will be treated of with more propriety, when we come to the description of the several diseases themselves, I shall take no farther notice of them here, nor indeed trouble you with any more observations, but proceed to give separate statements, of the nature, causes, and treatment of the different complaints, in the same order as they stand in the general return, No. 8, which is intended to show you, at one view, the total number of patients treated, and also what proportion of them had been under cure, previous to their arrival at the invalid depot.

No. III.

DISEASES.	TOTAL TREATED.					Of which were treated from the commencement in the Ophthalmic Hospital.		Of which were treated partly in the Ophthalmic Hospital.	
	Acute.		Chronic.						
	One Eye.	Both Eyes.	One Eye.	Both Eyes.	Total.	Acute.	Chronic.	Acute.	Chronic.
Ophthalmia Simplex	8	15	6	20	49	22	15	1	11
Mucosa	1	8	1	11	21	7	6	2	6
Purulenta	1	2			3	1		2	
Pustulosa	2	5	1		8	5		2	1
With granulated Lids			14	127	141			14	127
Lippitudo		4		10	14		3	4	7
Psorophthalmia			3	1	4		2		2
Hydrophthalmia			1		1			1	
Iritis	8	1	2	1	12	9	2		1
Staphyloma			11		11				11
Cataract			6	4	10		4		6
Amaurosis				4	4				4
Entropeon			4	2	6		1		5
Pterygium			3	1	4				4
Hordeolum		2			2	2			
Hemeralopia				2	2				2
Tumor fungos. e callo oculi			1		1				1
Totals	20	37	53	183	293	46	33	26	188

Ophthalmia Simplex.—Forty-nine cases of this disease were admitted into hospital. In twenty-three of them the inflammation was in the acute stage, and in the other twenty-six it had passed into the chronic form. Of the former class, eight had the disease in one eye, and the rest in both; of the latter six in one, and twenty in both. Thirty-seven of these patients were treated, from the commencement of the disease, in the Chatham establishment, but the other twelve had been under treatment elsewhere previous to their arrival there. The disease for which they were taken into hospital was perfectly removed in all but one, and in his case there only remained a very slight redness of the eyeballs, with some watering, especially on exposure to a strong light, or a current of air. In two of the number treated from the first, in the ophthalmic hospital, a slight opacity of one cornea of each remained, which was occasioned, in the first of them, by the healing of an ulcer that existed on his admission, and in the other by the cicatrization of a superficial wound of the cornea, which was the cause of his being taken into hospital. In four of the twelve, who had been under previous treatment, more or less extensive opacities of the cornea, from the healing of ulcers in a former disease, existed when they were discharged, and in a fifth case both eyes were disorganized, in consequence of a severe injury received, by the unexpected explosion of a mine; but in all of them every symptom of inflammation was completely removed, previous to their leaving the station.

Ophthalmia Simplex Acuta.—In the greater number of instances this disease occurred in a very mild form, and yielded for the most part readily to very simple treatment. The symptoms and appearances of the inflammation were varied considerably, not only by the duration of the disease, but also by the nature of the exciting cause: An increased vascularity and redness of the external parts of the eyeball and linings of the palpebræ, lachrymation, intolerance of light, sensation of sand or gravel under the lids, with itching, smarting, and more or less pain in the eye itself, or in the surrounding parts, were the symptoms which most commonly presented themselves to our notice. *The increased vascularity* in most of the cases was general, and affected not only the eyeballs, but also the lining of the lids; the vessels were observed for the most part to run as nearly as possible in straight lines, seldom to give off many branches, and in general, to terminate about half a line behind the cornea, although now and then they were seen reaching to the very margin of that tunic, and in a few instances even extending for a short way on its surface. Their number and

size varied very much in different individuals, in some only a few small branches were observed ramifying here and there on the surface of one or both eyeballs, and giving rise to but little redness, whilst in others, they were so numerous and matted together, as to give the whole eyeball a uniform red appearance, which was for the most part of a bright scarlet hue. *An increased flow of tears* was a symptom which attracted very general notice, especially in the commencement of the disease, and may be said to have occurred in all of the cases except five; in these it was rather diminished than increased, and the patients complained of an unusual dryness of the whole eyeball, with pain or soreness on moving the lids, and a sensation of heat and burning in the organs themselves, which symptoms were completely removed by a copious lachrymation, which in all the five occurred in the course of the disease for the most part about the third or fourth day. By one part of the patients, the tears were described as being very hot and acrid, scalding and excoriating the parts over which they passed, whilst by the others, they were stated to produce almost a directly opposite feeling, which peculiarities there was no possibility of accounting for by any evident dissimilarity of disease. *An uneasiness of eyes upon exposure to light* was a symptom which occasionally occurred, although not so generally as to warrant its being set down as one of the regular characteristics of conjunctival inflammation. It was most evident in cases in which the inflammation was either deep seated, or more or less modified by the scrofulous diathesis, and in them it sometimes proved very troublesome and difficult to remove. *The sensation of something rough below the eyelids, described as resembling sand or gravel,* was a very regular symptom in the commencement and early stage of this species of ophthalmia, and appeared to be principally occasioned by the enlarged blood-vessels of the lining membrane of the palpebræ; as in the instances in which these were divided, and their contents allowed to escape, the sensation immediately vanished, and did not return at least till they had regularly filled again. *Itching and smarting of the edges of the tarsi,* particularly towards the canthi, were sensations frequently complained of, and sometimes continued for several days, though in general they very soon gave place to a greater or less degree of pain, a symptom, which, next to the increased vascularity, was certainly one of the most common attendants on acute ophthalmy. It was said by some to have been the first circumstance which led them to discover their disease, whilst others asserted that it did not prove troublesome till after most of the other symptoms already described had been experienced.

The pain differed considerably in its site, nature, degree, and duration, in different individuals; some complained of it as being seated either in the eyeball itself, or directly under the upper lids, others referred it to the eyebrows, temples, forehead, or occiput, and in a third class it affected several of these parts at the same time. When it occurred in the eyeball, it was for the most part of a dull aching description, or else acute and attended by a sensation of a deep internal pulsation. In a few instances it was said to resemble the pricking of pins, and frequently to dart from the eye right across to the posterior part of the head. When it felt as if it had its site in the lids, it was for the most part of a darting or pricking nature, and again, when in the head, it was in general dull, and attended by a sense of weight and uneasiness in the forehead, yet occasionally it was very acute, lancinating, and accompanied by much throbbing of both the external and internal carotid arteries, with considerable increase of temperature of the face and lateral parts of the head. In respect to severity and duration it varied very much, in some, (whatever was the description of pain,) it was so severe as to prevent them either sleeping or lying still for a moment, but in the greater proportion of cases, it was very slight, indeed in several of them not more than a simple tenderness and soreness of the affected parts. In the cases in which it was very severe, or of a pricking description, it generally occurred in paroxysms, varying from two minutes to an hour, or even two, while again, in the instances in which it was dull or pulsatory, and affecting either the eye and head at the same time, or only one of them, it was for the most part pretty constant, at least, the individuals were seldom entirely free from it, although frequently it suffered considerable exacerbations and remissions. The evening was the time when pains of the last description generally became aggravated, in which state they continued till about two or three o'clock in the morning, when a change most frequently took place.

In addition to these general symptoms, a few others of less consequence were now and then complained of, such as a sense of fulness and over distention of the eyeballs, inability to move them freely in their sockets, more or less dimness of vision, &c. When the latter symptom was complained of, there was always an unusual dulness, and muddiness of the cornea, observable on examination; and as that was more or less distinct, vision was found to be more or less impaired, and the patients, under such circumstances, generally described surrounding objects as appearing to them involved in a thick fog, or as seen through a thin gauze.

Causes.—Cold acting either directly on the eye, or through the medium of the constitution, appeared, from the statements of the patients, to have been by far the most general cause of the inflammatory complaint we have just been describing. Its effects appeared to have been most severe, when conjoined with a current of wind, strong examples of which were lately furnished us, by the arrival of two detachments of invalids from the Mediterranean, most of whom suffered more or less from inflammation of the eyes, upon their reaching the cold windy latitudes of England, and in nearly forty patients, the disease under different forms existed to such a degree, on their arrival at Chatham, as to render them objects for immediate hospital treatment. From the same causes, many individuals, either on guard during a stormy night, or lying opposite to open doors or windows, became affected with the complaint in question. By sleeping on the cold ground in the open air, during a longer or shorter period in a summer's night, the same state was occasionally produced, even where there was no wind, and but little sensible cold, to a person in motion. In such cases, the disease was probably occasioned by the action of the humid atmosphere, which is generally found to a greater or less height, on the surface of the earth during the night, after a hot summer's day, and which seems to be particularly hurtful to soldiers on guard in warm climates. Exposure of the eyes to a bright light, especially when long continued, was assigned as another cause of ocular inflammation, and instances occurred where the strong glare of the sun, particularly when reflected from sandy or rocky strata, as is frequently the case in our southern and eastern colonies, gave rise to more or less severe attacks of ophthalmia. Much exertion of the eye in looking at minute or distant objects, was said by a few to have produced their disease; thus a tailor became affected with inflammation of both eyes, after two days almost constant labour at his trade, the greater part of which time he was employed in sewing a coat which required very much attention; and a serjeant, while in the habit of using, almost constantly during the day, the telescope, to watch the motions of a neighbouring telegraph, became affected with the same complaint. External injuries, mechanical and chemical stimuli, were also found to have had occasionally their share in producing the disease, although not to the same extent as the other just mentioned.

Treatment.—The cure was attempted, in every case, by general or local remedies, either alone or conjoined. Amongst the former may be classed abstraction of blood from the system, emetics, nauseating doses of antimonials, purgatives, &c., and to the latter belong local blood-letting, blisters, and the various

washes, drops, and unguents. General blood-letting was employed, in cases in which the pain was very severe, or where the constitution sympathised much with the local disease, as was occasionally the case when it arose from exposure to cold; but in none of them was it ever carried to the great extent recommended and practised so frequently some time ago by many practitioners of this kingdom. It was found to matter but little from whence the blood was taken, provided the necessary quantity was abstracted, and on this account a vein of the arm was generally opened in preference either to the external jugular or temporal artery; indeed, any advantage which might result, from a quantity of blood abstracted by the latter method, appeared to me to be more than counterbalanced, by the excitement and fresh irritation, necessarily excited by opening that artery, and then stopping the hæmorrhage when the desired quantity had been taken. The application of bandages, or ligatures of any description, round the head of a person affected with inflammation of the eyes, cannot be strongly enough reprobated, especially if that degree of tightness which is often necessary to restrain the bleeding from an wounded artery, as they must naturally retard the free passage of blood to the upper parts of the head, and consequently cause an increased action of the vessels below the point of obstruction, which must to a greater or less extent involve those of the eyes. If it be supposed that the temporal artery has much share in keeping up the inflammation, it had better be secured at once by a ligature, which I have in a few instances seen done with considerable benefit. The quantity of blood abstracted was regulated by the severity of the symptoms, the nature of the constitution, and the effects produced. In none was less than a pound ever taken, and in few more than two at one time, although it was occasionally found necessary to repeat at intervals the abstraction of the same quantity two or even three times, before the activity of the disease could be said to be overcome, and the inflammation brought to such a state, as it could be treated properly, by the other remedies to be hereafter mentioned.

Emetics.—In many cases where the constitutional excitement was but slight, and the pain of the head was dull and aching, the free evacuation of the stomach by an emetic often proved highly serviceable; for not only did it frequently remove entirely the pain, but likewise effected an evident diminution in the degree of severity of the local inflammation, and, if followed up by proper local treatment, and an occasional purge, was often found sufficient to remove the disease. I may here remark, in case that an inspection of the eye be made during the action

of the emetic, that the vascularity often appears even more increased for a time, yet, after all exertion is over, and the patient has remained quiet for a few minutes, the change for the better will begin to be perceptible. In cases in which the inflammation runs very high, and where there is considerable danger from a momentary increase of action, the remedy we have now been speaking of ought certainly not to be employed, till after blood-letting has been premised. Where occasion for its use occurred, six grains of tartrate of antimony were in general dissolved in a pint of common water, the half of which was ordered to be taken immediately; and, should full vomiting not be produced in the course of half an hour, the remainder was to be exhibited. This medicine, when given as above mentioned, generally acted also very freely on the bowels, and thereby rendered the immediate exhibition of simple purgatives unnecessary.

Nauseating doses of antimonials were seldom had recourse to in the first instance, unless the disease was of a very mild description. They were seldom if ever given till after the increased action had been previously more or less reduced, by a general or local abstraction of blood, or by the effects of a full vomit They were found very useful in cases in which there appeared to be a great tendency to inflammation, and where the symptoms showed a disposition to become aggravated again, as soon as the system had recovered from the state it had been brought into by previous evacuants. In such cases, if nauseating doses of the tartrate of antimony be administered directly after the emetic, the system will for the most part be kept in such a languid state as to guard against a subsequent increase of disease. The same practice was also found very useful in cases where the inflammation had attained such a degree of severity as to render the employment of full emetics improper. In order to insure its full effect, it must be given in very small doses, and frequently repeated, perhaps *a quarter of a grain* every half hour, but this must be regulated according to circumstances, as what will only produce slight sickness in one person, will occasion copious vomiting in another.

Diaphoretics were a class of remedies not much trusted to when the disease appeared to be simply local; but when it depended on, or was one of the symptoms of a general constitutional derangement, they were frequently administered with evident benefit. In catarrhal ophthalmia they were particularly employed, and certainly with such advantage as to entitle them to a distinguished rank amongst the remedies recommended for the cure of that species of inflammation. The compound pow-

der of ipecacuanha, either alone or combined with the pulvis antimonalis, was the medicine most generally prescribed; if alone, fifteen grains were ordered morning and evening, but if combined, only twelve, with three of the James powder. By these doses a pretty moderate, yet constant determination to the skin was kept up, which was generally soon followed by a diminution of the disease, not only of the eye, but also of the constitution.

Purgatives.—You will, perhaps, be astonished that I have not taken an earlier opportunity of mentioning this remedy, especially as it is a general law in our profession, that the *primæ viæ* in all diseases, but more particularly in those of an inflammatory nature, ought to be fully and repeatedly evacuated as soon as possible. This apparent omission is accounted for by some of the remedies already mentioned (antimonials either as vomits or only to produce nausea) having almost, in every instance, at the same time acted freely as a purge, which rendered it unnecessary to exhibit medicines solely with that intention, for such a time as the use of the above preparation was persisted in, which was, in most of the cases, till the severity of the inflammatory symptoms had evidently been reduced. After it was discontinued, however, it was customary to prescribe occasionally a dose of sulphate of magnesia, so as to keep the bowels moderately open.

Local remedies.—Abstraction of blood, either directly from the inflamed part, or from its immediate vicinity, is certainly a part of the local treatment deserving of our first and not least serious consideration. That was effected either by cupping, the application of leeches to the lids or temples, or by scarification of the inner surface of the palpebræ. By the first method blood was often taken in considerable quantity, either from the temples or nape of the neck, but as its operation was attended with considerable pain, and was in some instances, when done in the former situation, followed by a good deal of fresh excitement, it was a practice not very generally employed, indeed I may say never, except where, from some peculiarity of constitution, the use of leeches was followed by a troublesome inflammation and swelling of the parts, as actually occurred in several instances. The second method, or that by the application of leeches to the lids or temples, was the plan most generally adopted, and certainly with the greatest success. The temple close to the outer edge of the orbit appeared to be the most eligible and safe situation for applying them, as in several cases, in which they were placed upon the lids, a good deal of irritation, swelling, and soreness of these parts occurred, which

prevented for a time not only the necessary examination of the diseased parts, but proved a great impediment to the application of the other remedies. In several instances, in which the local vascular action had been overcome to a certain extent by other treatment, the application of two or three leeches to the inner surface of the lower lids was followed by immediate and lasting benefit, but if employed before the action had been previously more or less reduced, the irritation caused by their bites and everting the lid, more than compensated for any amelioration which the quantity of blood drawn produced. As soon as they became detached the bleeding was encouraged by warm fomentations, either with simple or medicated fluids.

Scarifying the lining membrane of the palpebræ was a third way in which local depletion was sometimes performed, but seldom, if ever, till after the disease had passed its height. In cases in which there existed a considerable degree of turgidity of the vessels about the fifth or sixth day, accompanied by little or no pain, and where some of the other modes of detracting blood had been previously practised, much advantage was often experienced from dividing them across with the shoulder of a lancet, encouraging the bleeding for a few minutes by warm fomentations, and then dropping over the surface of the lid some of the vinum opii, or solution of nitrate of silver. In several cases of this description, the method of treatment just stated was employed, and in the greater number of instances the vessels never were observed again to attain the same degree of distention, the disease from that time yielding quickly to the use of slightly stimulating applications.

Blisters were very frequently employed in the treatment of acute inflammation of the eyes, and certainly often with very marked advantage. They were applied according to circumstances; either to the temples, forehead, back of the ears, nape of the neck, or arms. The back of the neck or behind the ears were the situations, however, which were in general made choice of, as, when applied to the temples or forehead, the excitement which they produced was sometimes found to extend as far as the eyes, and in these cases to be injurious rather than beneficial. They were found most useful in cases in which either general or local blood-letting had been previously employed, and where there still existed a good deal of local increased action, without much pain, or where the latter symptom, if it did exist, was of a dull aching description, and either confined entirely to the eye, or affected the head at the same time. In such cases a blister applied either to the nape of the neck, or behind one or both ears, and kept discharging for some time by the savine cerate, often

produced an evident diminution of the inflammation, and insured a speedy cure.

Collyria.—Medicated washes, if we except the decoction of poppy heads or chamomile flowers, were but seldom employed during the active stage of inflammation, as the pressure which was necessary to be made by an eye-glass in order to insure the fluids being kept for any time in actual contact with the diseased part, was found to be productive of considerable fresh irritation. The decoction of either of the anodynes above mentioned was, in several cases in which the disease ran high, employed as a fomentation, and with great relief. They were for the most part used immediately after the application of leeches, as at that time their anodyne effects were equally well obtained, whilst their degree of temperature encouraged the bleeding. In cases of a more slight description, water, either pure or with a little acetate of lead dissolved in it, and made tepid, was frequently employed for washing the external parts of the lids. As soon as the activity of the disease was overcome, a weak lotion of sulphate of zinc, in the proportion of two grains to an ounce of water, was applied three or four times a-day, by means of an eye-cup, and was directed to be kept in contact with the inflamed parts about ten minutes each time. In several cases in which the pain was very severe, and not alleviated either by bloodletting or the use of any of the anodyne fomentations just mentioned, considerable and lasting relief was often procured by exposing the affected parts to the steam arising from a camphor and opium mixture,* when brought to a boiling heat for ten minutes, two or three times a-day.

Drops.—When the disease happened to be very active, and accompanied with much pain and profuse lachrymation, a solution of opium, or some other anodyne, was dropped between the edges of the tarsi, near the outer canthus, five or six times a-day; but in cases in which the inflammation was more moderate, the *tinc. opii* was employed in the same way twice a-day, and in no case with the least bad effects, in few with but little apparent advantage, and in far the greater number, if properly persevered in, with perfect success. When the linings of the lids continued affected, with increased redness, after the general disease had been removed, a solution of the *nitras argenti*, in

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* ℞ Mist. camphor. ℥ij.
Tinct. opii. ℥ss.
Liquor ammon. acet. ℥ij.
Aquæ rosarum ℥iv. M.

the proportion of four grains to an ounce of water, was found to be the most effectual remedy for removing it, when dropped on the surface of the lids, gently everted, two or three times a-day. When that preparation, however, did not succeed, the tincture of kino, or a saturated solution of alum or tartrite of antimony, applied, by a camel-hair brush, to the diseased parts, generally soon removed it. The liquor plumbi acetatis, either pure or diluted, with an equal proportion of the watery solution of opium, was also occasionally employed in cases of this description, and often with much advantage.

Unguents.—In but few instances of this disease did there appear to be any necessity for the use of ointments; but when a case did occur in which the lids felt stiff and uneasy in the morning, nothing more was in general employed than common white ointment, (unguentum ceræ,) or a little citrine ointment, mixed with a large portion of almond oil.

Having now given you a separate account of the different remedies employed, I shall just state, in a summary way, the practice which was for the most part pursued, when a pretty smart case of acute ophthalmy was admitted. General or local blood-letting, according to the nature and severity of the symptoms, generally commenced the treatment. This was in most cases followed by an emetic of tartrite of antimony, and the eyes, after its operation was finished, were directed to be fomented with warm water, or a decoction of poppy head or chamomile flowers. A blister, in the course of a day or two, (perhaps sooner,) was applied behind the ears, or to the nape of the neck, and a solution of the extract of opium was regularly dropped between the lids several times a-day. As the pain and other symptoms of acute inflammation subsided, a gradual change was made in the treatment, from the soothing and anodyne applications to those of an astringent and slightly stimulating nature, such as the lot. aluminis, lot. zinci sulphatis, and drops of the vinum opii. The two former were used by means of an eye-cup, and in that way kept in contact with the inflamed part for ten minutes four times a-day; the latter was dropped between the tarsi night and morning; by which practice, together with proper diet, a cure was, for the most part, effected in ten or twelve days.

Ophthalmia Simplex Chronica.—This form of disease had in every instance been preceded by more or less acute inflammation, which had either been reduced by previous treatment, or overcome simply by the efforts of nature. The disease in all of them was removed by the means of cure employed, though most readily in those in which the active inflammation had been sub-

dued, by the interference of art. The degree of severity of the acute stage, as far as could be ascertained, had varied considerably in the different individuals, though in most of them it had been mild, and in some even so transitory, as not to have attracted much attention, for several were not aware of the eyes being inflamed till it was mentioned to them, either by some of their comrades, or the inspecting medical officer. When it had come on in this gradual and insidious way, its cure was always more tedious and difficult than under almost any other circumstances; and even in some a slight degree of redness and watering continued for several weeks after their dismissal from hospital, which seemed only to give way to the effects of time. *

The general symptoms which marked this complaint, were an increased vascularity and redness of the external parts of the eyeball, and lining of the lids, lachrymation, diminished transparency of the cornea, and a more or less impaired state of vision. The degree of inflammation varied according to the duration of the disease, or the severity of the acute stage, and may safely be said to have exhibited all the different gradations, in respect to severity, which the acute stage already described is said to have done. In some, the redness was principally confined to the lids, whilst in others, its principal site was the external tunics of the eyeball, and in a third set, it was found affecting all those parts at the same time. The vessels ran in a tortuous winding direction, and terminated for the most part at, or a little behind, the edge of the cornea; though in a few instances they were observed extending for a line or more on its surface, and in those cases the nebulosity was always most distinct. They had in general the appearance of being suffering from over distention, and seemed as if they did not possess the power of relieving themselves from their gorged state. Their contents were of a dull purple hue, which afforded an almost certain mark, by which we could distinguish the chronic form from the acute stage. In several cases, there appeared to be a double set of vessels affected. The first were quite superficial, and evidently

* I am at present in the habit of meeting with daily examples of this fact amongst the numerous recruits which are almost constantly arriving here (military depot, Isle of Wight) from the different parts of the kingdom. In many of them, either from the single or conjoint action of intemperance, irregular hours, and long marching, especially in wet and windy weather, a species of chronic inflammation of the eyes is produced, which I find to require more time and trouble to effect its removal than even that of the most severe forms of acute ophthalmia, or of the chronic stage, which, from mismanagement, sometimes succeeds to them.

connected with the conjunctiva, as they could be readily raised or moved about with that membrane, but the other was more deep, and had its site either in the cellular membrane, connecting the conjunctiva and sclerotica, or on the surface of the latter, and was in general of a darker colour, and larger size than the superficial set. They could be seen extending to the very edge of the cornea, but never distinctly to penetrate its substance, although there is reason to believe that they did so, because the turbid and muddy appearance of that tunic was always most distinct in this peculiar form of inflammation. The colour of the blood in these two sets of vessels appeared to differ considerably, being in the deep-seated of a dark purple hue, and in the superficial of a light red; but whether that apparent dissimilarity was real, or only depended on the different situations of the vessels, I cannot pretend to decide; yet at the same time, I feel inclined to be of the latter opinion, as I have repeatedly remarked deep-seated vessels of their usual dark colour, running forwards to the edge of the cornea, and there becoming superficial, and extending backwards for some way on the surface of the conjunctiva, with their contents to all appearance of a much lighter hue from the point of reflection. *An increased flow of tears* was always a more or less troublesome symptom, particularly on exposure to a bright light or a current of wind. They were in general said to produce a sensation of cold to the parts over which they passed, and, therefore, had a quality the directly opposite of that which they were said to possess in the acute inflammation. *Diminished transparency of the cornea, and dimness of sight,* were symptoms which varied much in degree, according to the duration and severity of the present or preceding disease. In cases of considerable standing, or where the inflammation during the acute stage had run high, the usual shining transparent state of the cornea had given place to a dull milky appearance, which, according to its density, rendered vision more or less imperfect, and made all objects appear to the patient as if involved in a mist, or seen through a thin gauze or veil. This state, as has been already mentioned, was always most distinctly observed, in cases in which the inflammation was deep seated, and in them also its removal was effected with the greatest difficulty. Where the inflammation was but slight, or of recent date, very often neither of these symptoms existed, and now and then we met with instances of dimness of vision, according to the statements of the patients, without there being any unnatural appearance of the cornea. In a few patients, slight, constant, or periodical headachs, proved an annoying symptom, but they appeared to be more rheumatic than the consequence of the

local disease, and were generally removed by perseverance in the use of bark and the mineral acids. In several individuals, especially where the disease had existed for some time, a small nodule of fatty matter was observed under the conjunctiva, near to the inner margin of the cornea, which always remained unchanged, after all the other symptoms had been removed. *

Causes.—Improper treatment during acute ophthalmy, constant exposure of the eyes to bright lights, or much exertion of the same organs in examining minute objects, constant and immoderate indulgence in the use of spirituous liquors, irregular hours, cold winds, &c. were found to have been the principal sources of the disease in question. The first of these was the least frequent, the second and third were more common, but the three last were by far the most general.

Treatment.—Stimulants and astringents were the remedies usually employed for the cure of chronic ophthalmia, and were generally applied in the form of washes or drops. Of the former, the principal were those composed of sulphate of zinc, alum, nitrate of silver, or spirit of wine and vinegar; of the latter were the *vinum opii, liquor plumbi acetatis, solut. argenti nitratis, tinctura kino, tin. aloes et myrrhæ, vinum myrrhæ, &c.* The sulphate of zinc lotion was found most useful in cases in which there was a degree of weakness of the eyes, with copious lachrymation, and where the vascularity was not very much increased. In such cases it was used in the proportion of two grains of the sulphate to an ounce of pure water, and kept some considerable time in contact with the inflamed parts, by means of an eye-glass, three or four times a-day. The alum wash was principally employed where the relaxation of the conjunctival lining of the lids was considerable, and where the blood-vessels were much distended, and run rather superficially. It was applied five or six times a-day, in the proportion of five, six, or eight grains to an ounce of water, and kept in contact with the inflamed part ten minutes each time. The nitrate of silver in the proportion of one grain to an ounce of water, was employed as a collyrium, with most advantage in cases in which the disease was principally seated in the lining of the lids, and where there was, or appeared to be, a tendency in that membrane to

* Having observed this circumstance so frequently in old cases of chronic ophthalmia, and in the eyes of persons who had been much subject to ocular inflammation, I make now no hesitation in giving it as my opinion, if that appearance is observed, that the individual must, sometime or other, have been subject to considerable disease of that eye, and seldom, if ever, do I find it not verified by the persons on statement.

become excoriated, or affected with superficial ulcerations. The last, or that composed of spirit of wine, vinegar, and water, according to the formula given in Cooper's Surgical Dictionary,* was found particularly useful in cases in which there was considerable relaxation of the conjunctiva covering the eyeball and lining the lids, accompanied by profuse lachrymation, and slight intolerance of light, with more or less preternatural redness of the tarsi. It was generally employed at first of the undermentioned strength, and then increased or diminished, according to the effects it produced.

Of the drops, the vinum opii was that most frequently employed, and I may add, was by far the most successful. It was used in almost every instance, and only now and then did there occur cases in which it proved hurtful; in them its application was followed by much smarting, and a profuse discharge of hot tears, with increase of vascularity, &c., sometimes requiring the application of leeches, and anodyne lotions, to allay the excitement. In several cases its effects appeared to diminish after using it for some time; but as soon as this was observed, it was discontinued for a few days, and some of the others were employed, by which means the action was changed, and then its use was resumed again with success. It was applied by making the patient incline his head a little backwards, and then gently raising the upper lid, and allowing two or more drops to fall from the extremity of a quill filled with it, near the outer canthus of the affected eye, which practice was repeated again in the evening, or oftener if necessary. It ought never to be repeated till after all the marks of the excitement produced by the previous application had completely disappeared, as if sooner it was apt to excite active inflammation. *Liquor plumbi acetatis* was used, either pure or diluted with an equal portion of the watery solution of opium, where there was much general relaxation, or where the disease was of long standing, and marked by much vascularity, particularly of the conjunctiva lining the lids. It, like the former remedy, excited a very considerable increase of redness for the time, but often in the end effected a complete removal of all the morbid symptoms. *Solut. argenti nitratis* of various strengths was found useful in cases of the same description, as the last drops, and also in those in which the disease was principally seated in the lining of the lids, more parti-

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* R. Acet. Distillati ℥i.
Spirit. Vini Tenuor ℥ss.
Aquæ Rosæ ℥viii. M.

cularly where there was a tendency to ulceration of the conjunctiva or edges of the tarsi. We generally commenced using it in the proportion of two grains to an ounce of distilled water, and gradually increased it to six, as the eye became accustomed to its action. I have often observed it when used of the latter strength at first, or after some time even stronger, produce no evident benefit, yet, when diluted so as to contain about two or three grains to the ounce, the change was often very soon perceptible. This probably arose from the former possessing a greater stimulating power than was conducive to the restoration of the healthy action, yet not sufficiently strong to excite active inflammation, and thereby effecting no marked alteration on the disease, till it was brought to that degree of strength which was suitable for effecting the former of those purposes. *Tinctura kino*, tinct. aloes et myrrhæ, vinum myrrhæ, &c., were all found useful in cases in which the affected parts had become accustomed to the action of the others already described, and under such circumstances, they were frequently employed with great advantage. By the cautious and constant employment of some one or other of the drops or washes enumerated, a cure in by far the greater number of cases was readily effected, yet in a few, the amendment went on so slowly, as to induce us to try some additional remedies, such as blisters, setons, local blood-letting, &c. The former of these remedies was generally applied to the back of the ears or nape of the neck, and kept discharging for some considerable time; the second was invariably placed in the back of the neck, and retained there till the disease was removed from the eyes; and the last was generally effected by scarifying the linings of the lids, and encouraging the bleeding for a short time by warm fomentations; after which, the vin. opii or solut. argenti nitratis was diffused over their surface. This last mode of cure was only had recourse to, when the vessels were very inactive, and so much gorged with blood, that they appeared to be but little affected by any of the local remedies already noticed.

Ophthalmia Mucosa.—Twenty-one cases of this disease were treated, nine of which were acute, and the remainder chronic. In two patients the complaint was confined to one eye, and in the other nineteen it affected both; in all of them a cure was effected, by the treatment employed. As the mucous or puriform discharge, which was invariably present in this form of inflammation, constituted almost the only difference between it and the common ophthalmy, already described, it would only be troubling you with unnecessary repetitions, were I to enumerate the various symptoms here, or even detail the treatment,

where it did not differ materially from that employed in simple inflammation of the external tunics of the eye. I shall therefore content myself with simply stating the diagnostic marks, referring you for the general characters of the disease to the species of ophthalmia above alluded to. The discharge, as has just been remarked, formed the principal, indeed I may say the only mark of distinction, between the two diseases of which we have just been speaking. It was more or less copious, according to the duration of the complaint or the severity of the inflammatory symptoms. In some it was so trifling, as only to be seen towards the inner extremity of the lower lids, in the morning before the patient had washed himself, or on the inner surface of the lids, rendered visible on gently everting them; in others it was very copious, besmearing not only the whole of the tarsi, but also the outer surface of the lower palpebra, and forming a medium by which the former were found to adhere during the night. It differed very much in appearance and consistence in different individuals; in some it was thin and slightly yellowish, resembling bad cream, whilst in others it was thick and ropy, like mucus or flakes of lymph. When of the former description, it was generally found collected towards the inner canthi, or all along the edges of the tarsi, about the roots of the ciliæ, when again of the latter, it was seen principally on the inner surface of the lower lids, and about the point of reflection of the conjunctiva on the eyeball. This difference of situation probably depended on the nature of the fluid discharged, being, when thin and puriform, readily washed away by tears, but when thick and ropy not much affected by them. The vascularity of the lining of the lids, in proportion to that of the eyeball, appeared to be much greater in this species of inflammation than in the common acute ophthalmia, which circumstance, together with the discharge and other appearances, tend, in my opinion, to prove, that the primary seat of the disease was in the lining of the lids, and that the inflammation of the conjunctiva covering the eyeball was merely symptomatic of it. In a few of the cases which co-existed with acute catarrh, small spots of effused blood were observed here and there under the conjunctiva, an appearance which I have very frequently remarked in severe catarrhal ophthalmia, so often, indeed, that I should now have very little hesitation in ordering a patient to bed, who might present himself thus affected, and prescribe the remedies necessary for combating the ocular disease, and its complication, the catarrh, without making any particular inquiries of the individual himself. You may perhaps say that this would be placing too much faith in mere appearance, par-

ticularly as ecchymosis under that tunic does occasionally arise from other causes, such as blows on the eye, foreign bodies, especially when of a rough or pointed description, getting under the lids, &c. That effusion of blood does occur from these causes I must readily admit, but, at the same time, I would remark, that, when thus induced, the appearances are very different from those exhibited by it, in the modification of disease we have just been describing. When occasioned by a blow, it is for the most part pretty extensive, dense, circumscribed, and of a bright scarlet colour, with little or no surrounding inflammation, at least till some time after the accident. When it is the consequence of the action of extraneous bodies getting under the lids, it is in general also considerable, and confined principally to the upper and lower parts of the eyeball, where it is covered by the palpebræ, and is seen occurring at the extremity or in any part of the course of a vessel, upon which the foreign body may have acted; but when it occurs in catarrhal inflammation, it appears in very thin, small, irregular spots, generally at the termination of small vessels, and so slight as to conceal from view the ramifications of other small branches which it may happen to cover, it is observed on all parts of the globe, but more, if any thing, towards the canthi than under the lids, and is occasionally seen very distinctly close to the outer and inner edges of the cornea. In addition to the appearance of the effusion itself, there was a peculiar watery look of the eyes, which was of considerable advantage towards forming a ready diagnosis, and was such, that, if once carefully observed, it was, in general, easily recognised again. It is not that copious discharge of tears, observed in acute ophthalmia, but it is a shining watery appearance of the whole eye-ball, and a distinct collection of the lachrymal fluid, all along the inner edge of the lower tarsus, which, however, does not collect to such an extent, as to run over the lids and cheek, unless when the former are forcibly shut, and then it is only for the moment, as immediately upon their being opened again, the same appearance is exhibited, and only disappears as the severity of the disease abates. The inflammation in most, if not in all the cases, was said to have been occasioned by cold, acting either directly on the eyes, or through the medium of the constitution. The treatment of such of the acute cases as were not complicated with catarrh, may be said to have differed but little, if at all, from that already detailed under the head of Simple Acute Ophthalmia. When, however, much constitutional excitement existed at the same time, which could be traced to the influence of cold, the plan of cure was principally directed to effect its diminution or

removal, as along with it the local inflammation was, in general, found to disappear. With this intention, twenty or thirty ounces of blood were drawn from the arm, a tartrite of antimony emetic was immediately exhibited, and the patient was directed to have a warm bath in the evening, which was to be followed by a scruple of Dover's Powder. If the local increased action happened to run high, as a precautionary measure, four or six leeches were applied to each temple, and the eyes fomented with some tepid anodyne fluid. Next day, if the affection of system was not found to have been sufficiently reduced, the depletion was again repeated, as also the warm bath and the diaphoretic. About the third day, by this treatment, not only the constitutional, but also the local disease, was found to have undergone a very considerable diminution, and the latter, in general, to be in such a state as to require the employment of stimulating and astringent applications, to stop the mucous discharge, which then was found to be one of the principal marks of disease of the eye. With this view, a solution of the nitrate of silver, to the proportion of from three to six grains to an ounce of water, was found to be by far the most successful remedy, when cautiously persevered in. In cases, however, in which it did not appear to effect any considerable improvement, by the third, or, at farthest, the fourth day, a blister was applied to the back of the neck, and kept discharging till the disease was nearly, if not entirely cured. The last remedy, in every instance in which it was employed, was followed by immediate benefit, and soon by a total cure. As long as any constitutional affection existed, the warm bath, the pediluvium, diaphoretics, and gentle purgatives, were occasionally prescribed. Where the complaint was mild, or of a chronic form on admission, the solution of the nitrate of silver was immediately employed, and if it was found to be of long standing, or attended by any considerable discharge, a blister was applied to the back of the neck, and kept discharging till the healthy action was nearly if not completely reinstated, which was sooner or later effected in every instance of the disease which I have just been describing.

Ophthalmia Purulenta.—In only three cases admitted was the discharge so copious, as to warrant their being set down as examples of purulent ophthalmia. In all of them the disease was in its acute stage, and in two affected both eyes, but in the third it was confined to one: they were all cured by the treatment employed.

Symptoms.—A sensation of stiffness and inability to move the lids with their usual degree of freedom, sense of weakness and weight on the upper part of the eyeball, and an increased

discharge of tears, were the symptoms first complained of in this disease. These in the course of a few hours were followed by a still more copious lachrymation, sensation of sand or gravel under the lids, intolerance of light, swelling of the palpebræ, particularly the upper ones, and an increased vascularity of the whole of the conjunctiva, covering the eyeball and lining the lids, with severe pain, confined in one of the cases to the eye itself, and accompanied by a sensation of pulsation in the bottom of the orbit, but in the other two, affecting both the eye and head at the same time. On the morning following the appearance of these symptoms, the tarsi were found more or less firmly glued together, and upon a separation being effected, a sudden and copious discharge of tears, mixed with a puriform fluid, took place, which was followed by temporary relief. The discharge from this time kept gradually increasing, till about the third day, when it, as well as the other symptoms of active inflammation, were found to be at their height, and chemosis commencing to form. The last symptom, when once it commenced to make its appearance, increased very rapidly, and was followed by an evident diminution of the redness of the conjunctiva, and a sensation as if the eyeball was nearly quite fixed in its socket. In two of the cases the chemosis was general, forming a complete ring round the cornea, but in the other it was partial, and occurred only towards the outer canthus. In one it was so very considerable as nearly to cover the whole of the cornea, but in the other two it was more trifling, and did not conceal above a line and a half of that tunic, all around its circumference. At first the swelling was of a dark red colour, but as it increased it gradually got more and more pale, till at last it exhibited nearly the appearances of a piece of muscle, from which the blood has been well washed. The degree of vision was not in the least impaired from any affection of the cornea, though it was now and then for a moment confused, by strings of mucus or pus extending across the anterior part of the eyeball, and either impeding the passage of the rays of light to the retina, or giving to them a wrong direction. The constitutional irritation in all was pretty considerable, towards the commencement of the disease, being marked by a quick, hard, and strong pulse, hot skin, thirst, loss of appetite, &c. As the activity of the local inflammation abated, the intolerance of light, swelling of the palpebræ, and puriform discharge diminished, and the lining of the lids became of a brick-red colour, and very much relaxed and thickened. As the chemosis disappeared, in like manner did the conjunctival tunic of the eyeball become much relaxed, which was marked by the formation of folds or doubling

of that membrane, in different situations, during the varied motions which the organs were required to perform.

The disease, in two of the cases, was traced to the action of a cold wind, while on sentry, and in the other it appeared to have been occasioned by a severe blow on the eye, while in a state of intoxication. The treatment in the early stage was very active, and directed with a view both to the alleviation of the constitutional and local disease. The patients, on admission, were immediately ordered to bed, and a vein in the arm was opened, from which blood was allowed to flow till syncope, or a state nearly approaching to it, was produced. This for the most part happened by the time thirty or forty ounces had been abstracted, provided the orifice was sufficiently large, and the patient kept sitting up during the whole of the operation. After the arm was bound up, a tartrite of antimony emetic was immediately exhibited, which in general produced a free evacuation, not only of the stomach, but also of the intestines. The operation of this remedy invariably left after it a considerable degree of languor and debility, which was accompanied by an evident diminution of the inflammation of the eye, and the celerity of the pulse, and to keep them in that state was now the object of our treatment. For that purpose, the nauseating doses of antimonials, which have been already mentioned under the head of Acute Ophthalmia, were exhibited, and, as an additional security, six leeches were applied to each temple, and a blister to the back of the neck, which was directed to be kept open by the application of savine cerate. After the leeches had fallen off, the bleeding was encouraged by fomenting the temples with a decoction of poppy heads. During the first two or three days of the disease, the matter was frequently washed away from the surface of the eyeball and linings of the lids by the same fluid, and a moderately strong solution of opium dropt between the tarsi five or six times a-day. Should the pain, inflammation, or constitutional irritation again increase in spite of these measures, the general blood-letting was repeated, as also the application of the leeches, and the patient was ordered to continue the use of the antimonials, and have a warm bath, in the evening. When the activity of the complaint had been thus reduced, and the chemosis was now very considerable, an attempt to moderate that symptom was made, by cutting out a portion of the conjunctiva, at its most prominent part, and allowing the serous fluid to escape. This operation was invariably followed by much advantage, if not performed till after the active inflammation was overcome, as the swelling disappeared much sooner about the parts where the excisions were made, than any where

else. The anodyne decoction was now changed for a solution of alum, in the proportion of about six grains to an ounce of water, which was generally at first used warm, by injecting it under the lids five or six times a-day, by means of a common elastic gum syringe, such as that which is sometimes used in the operation for hydrocele. As the eye became accustomed to the change, it was used cold, and its strength also increased to ten grains, while, at the same time, the vinum opii, or a weak solution of nitrate of silver, was used instead of the solution of opium. By these means the chemosis, puriform discharge, and increase of vascularity, were generally in the course of six or eight days very much diminished. The alum wash was still continued, as also the solution of nitrate of silver; the latter however of an increased strength, containing about six grains to an ounce of water. This remedy produced a considerable effect in diminishing the discharge and removing the inflammation from the eyelids, and when continued, with the alternate use of the lotio zinci sulphatis and lotio aluminis, a complete cure was effected. In all the cases the vascularity of the lining of the lower lids continued much increased, with considerable lachrymation and slight purulent discharge, after all diseased appearances were removed from the eyeballs. These symptoms were in time removed, by the drops of the solution of nitrate of silver, together with the use of the *dilute citrine ointment*. The bowels, during the whole progress of the cure, were kept moderately open, by small and repeated doses of neutral salts.

Ophthalmia Pustulosa.—Eight individuals affected with this form of inflammation came under treatment; in seven of them the disease was confined to one eye, and in the eighth it affected both. In two it was of several days standing, and had been modified by previous treatment, while in the others it was in its very commencement, and yielded readily to the treatment employed. Two of them had laboured under a similar complaint twice before, and all the others had been generally subject to weak eyes. The increase of vascularity was only partial, and occurred in three towards the inner canthus, in four towards the outer, and in the eighth case on the upper part of the eyeball. Close to the margin of the cornea, corresponding with the increased vascularity, there was regularly observed a small pustule, filled with a whitish puriform fluid, around which the vessels appeared to terminate, considerable lachrymation in all, and in six slight intolerance of light. The pain, which was always present in the commencement of this disease, was generally referred to the spot where the pustule afterwards appeared, and was described as being of a pricking description, but in none

was it either violent or of long duration. The exciting cause in all appeared to have been cold acting directly on the eyes. The treatment pursued was particularly simple, and at the same time very effectual. On admission the patient was ordered a purge of neutral salts, and the pustule was freely touched, with a piece of pointed caustic, so as to produce a slough. In the course of the day, if the pain at all increased, two or three leeches were applied to the temple, and the eye was fomented with warm water. The following day the slough began in general to separate, but the vascularity had not diminished. The solution of nitrate of silver, in the proportion of six grains to an ounce of water, was now dropt on the slough, twice a-day, and continued till a cure was effected. For the first two or three days after the caustic was applied, no diminution of the inflammation was perceptible, but as soon as the slough had regularly separated, and the small ulcer began to heal, all marks of inflammation were found to vanish with amazing rapidity, and the eye often in the course of a day got completely free from disease. Much advantage was always found to result from confining the patients to the ward, and carefully guarding against exposure to cold, or currents of air. The diet in this, as well as in the other varieties of inflammation, was at first very low, and gradually increased as the symptoms gave way.

(To be continued.)

IV.

Case of Stricture in the Intestines, accompanied with Scirrhous Liver. By T. M. Greenhow, Esq. Surgeon, Newcastle-upon-Tyne.

Mrs L. a lady of about 64 years of age, thin, and of a sallow complexion, had been for some years subject to stomach complaints, and had occasionally passed gall-stones. During the summer of 1818, she was attacked with slight inflammation of the liver, which was removed by the ordinary treatment. For some time afterwards she enjoyed unusually good health. In November 1819 I was again consulted by her. I found her spirits greatly depressed in consequence of some late afflictions in her family; and that, having withdrawn from an active employment in which she had been for many years engaged, she

had yielded to great indolence both of mind and body. To these causes principally I attributed the following complaints: A dull pain above the right os ilium, which had existed for some weeks, and was chiefly felt in walking, together with an occasional sense of fulness at the stomach, attended with frequent eructations. Since the pain had taken place, her bowels had become in some degree irregular; but her appetite continued good; her tongue was clean; her pulse natural; and she slept well. She felt no pain or uneasiness on pressure, nor could any enlargement or hardness be discovered in the region of the liver. The following medicines were prescribed.

℞ Pil. hydrargyri.
Rhei comp. āā gr. v. M. omni nocte sum.
℞ Infusi gentian. comp. ℥iss.
Magnesiæ sulph. ʒi.
Tinct. cardamoni comp. ʒi. M. cap. bis indies.

She was also strongly recommended to use moderate exercise, and to engage her attention by some amusing employment. Under this plan her bowels became more regular, the pain above the ilium diminished, and she seemed in all respects better. The medicines were soon discontinued, and she afterwards took mild purgatives only, as circumstances required, but with uniform advantage, till the pain ceased altogether. On Saturday the 5th of February, she thought herself remarkably well, but her bowels had not been opened on that, or on the preceding day, and her accustomed purge had failed to operate. More powerful ones were prescribed, and enemas were also used to assist their operation. During the three following days, the evacuations, though natural in appearance, were too scanty to be satisfactory. The abdomen was now becoming tense and tumid; and she complained of occasional griping, attended with borborygmi and eructations; nevertheless there was no fixed pain or tenderness about the abdomen, and her pulse continued moderate. Dr Headlam was now consulted. Purgatives, assisted by enemas, were persevered in. Much difficulty was encountered in getting the latter to pass. The evacuations became every day more scanty; the tension and tumefaction of the abdomen increased. We could distinctly feel the course of the small intestines greatly distended. Frequent vomiting ensued, but no feculent matter could be detected in what was rejected from the stomach. We were now convinced that some considerable obstruction existed in the course of the intestines, and entertained the most unfavourable view of the case. Medicine was of no avail, and her strength was rapidly declining. On the 15th we determined, as a last resource, to try the effect

of liquid mercury. Accordingly, I got her to swallow a pound of it, but no evacuation was produced. Towards the afternoon of this day she sunk rapidly, being much oppressed, with retching, and died at half past 9 o'clock P. M. without a struggle. No delirium took place, and the pulse was never materially affected.

Thirty-six hours after death, with the assistance of my friend Mr Leighton, I examined the body. Previous to making our incision, we remarked the great bulk of the abdomen. When its contents were exposed, there appeared a slight inflammatory blush over the small intestines, which were enormously distended with air. The stomach was nearly empty. On tracing the course of the intestines, we found much feculent matter accumulated in the colon. The cæcum was very large. At the junction of the colon with the rectum was a stricture so complete, as barely to admit the introduction of a large probe. At this part the gut was much discoloured, and looked as if it had been tied down with a cord to the upper part of the sacrum. Its coats were greatly diseased, being much thickened, and of a scirrhous hardness; and there were attached to it many fatty tubercular appendages, some of which were in a state of suppuration. Above the stricture the colon was much enlarged, and formed a complete cul de sac; below it the rectum was contracted through its whole length. The sketch which accompanies this case exhibits the appearance of the parts when removed. We were of course anxious to ascertain in what part of the intestines the mercury was to be found; but this was not easy, in consequence of their very distended state. To facilitate our search, therefore, ligatures were passed round the duodenum, and the colon above the stricture. The whole intervening intestines were then removed from the abdomen; but in doing this the mercury, by its weight, forced away one of the ligatures, and escaped into the abdominal cavity. It had probably been buried amongst the accumulated feculent matter at the head of the colon. We found the liver attached by old adhesions to all the neighbouring parts, and in a state of great disease. It was diminished in bulk, hard, and incompressible; its colour externally was a dark livid blue; and when cut into, its texture throughout was completely changed, being white and cartilaginous. The gall-bladder contained some dark inspissated bile; and two large gall-stones were found in the ductus communis choledochus.

This scirrhous condition of the liver must have commenced many years ago, and it seems surprising that so little inconvenience should have arisen from it; for though, from the previ-

ous history of the case, I was led to suspect some disease there, the symptoms were far from indicating the great extent of it. It did not materially interfere with the functions of the stomach and bowels, for the appetite had been almost uniformly good, and the evacuations were natural in appearance until the fatal obstruction took place. The stricture sufficiently accounts for the irregularity in the bowels, and the slight dyspeptic symptoms connected with it; it also explains the cause of the pain above the right ilium, which I conceive to have been occasioned by the great accumulation of feces in the large intestines; and this opinion is confirmed by the relief which always followed the action of a purgative.

Newcastle-upon-Tyne,
March 10, 1820.

REFERENCES TO THE SKETCH.

A The colon above the stricture, forming a cul de sac.
B Part of the rectum below the stricture.
C The stricture.
D A whalebone probe passed through the stricture as far as it would go, thus showing its dimensions.
E Fatty tubercular appendages.
F The meso-rectum.

V.

Case of Spina Bifida Bilobata. By THOMAS LE GAY BREWERTON, Esq. Surgeon, Bawtry, Yorkshire. *(With an Engraving.)*

THE perusal of Dr M'Keever's cases of Club-foot, associated with Spina bifida, has induced me to transmit the following singular case of Spina bifida, with a bilobate tumour.

April 16, 1820.—Mrs ——— was delivered of a male child at the full time, breech presentation. From the examinations during the course of the labour, the presence of two scrota was inferred. The child being born, a tumour was found on the loins, as in the accompanying drawing.

The tumour, composed of two lobes, is attached to the

M.r Brewerton's Spina bifida bilobata. Vol. XII. P. 378

M.r Greenhow's case of Stricture between the Colon & Rectum.

body; the upper or atlantal lobe is covered with cutis to nearly the union of the lobes, but at (A) there is a portion of the lobe not so covered with cutis.

The lower or sacral lobe is pendulous and diaphanous.

Both lobes of a dark-red colour, and some serum tinged with red oozes from the lower one.

Between the lobes the surface is rather irregular and sub-lobated.

On placing the lower lobe between the eye and a candle no ramifications of vessels, or expansions of nervous branches appears to be on its surface, or dispersed through the liquid.

On pressing the lobes, the child, by its cries and struggles, indicates that much pain is occasioned, and the tumour becomes perceptibly lessened.

The mother attributes this affection to a contusion on her loins from a fall during pregnancy.

27th.—The child died yesterday, the tenth day from its birth, in a state of great emaciation. Convulsions preceded its death.

The lower lobe of the tumour had become gangrenous, and the lower extremities paralytic. The knee-joints have become contracted, and after death remain so. The left foot is, at the ankle-joint, slightly inflected, so that the external edge is downwards.

Dissection.—The tumour is composed of two sacs or cysts, each lined with a dense ash-coloured membrane. The sacs are empty; but it must be noticed, that a serous liquid has been continually oozing from the inferior lobe since birth. The sacs do not communicate with each other, but both communicate with the spinal canal by a narrow neck.

The necks of the sacs are in contact and connected with the vertebral canal by the same opening of the vertebræ.

The lowest lumbar vertebræ apparently divided, the left half appearing natural, but the right half forming a semicircular process or curve to the right side, leaving an aperture on the right side of the mesial line, through which existed the communication between the spinal canal and the tumour.

The spinal marrow rather protrudes from the canal; as by cutting across the base of the tumour a portion of it is divided, but it cannot be said to have occupied the tumour.

The inner parietes, or membranous lining of the cysts, appears to be continuous with the dura mater of the vertebral canal, but differs from the usual structure of this membrane by being ash-coloured, opaque, and more thick; but this difference

must have taken place since birth, otherwise the lower lobe could not have then been diaphanous.

I wish that I could have concluded my communication with announcing a successful mode of treatment; but, as "knowledge is power," I hope the attention of the medical profession, being directed to the subject of spina bifida and club-foot, as associated diseases, may lead to practical good.

VI.

Extraordinary Case of Paraplegia. By J. Peake, Member of the Royal College of Surgeons, London.

James Archer, ætatis 30, was attacked, on Sunday night, January 18th, 1819, with numbness in the feet and legs, and that extending upwards to the thighs gradually to about the middle of the lumbar vertebræ. On the following morning he was called by his brother to get up to his work as usual, but found himself unable to move his lower extremities, and had not been able to give any alarm in the course of the night of this extraordinary attack, having slept in a building detached from the dwelling-house. He had walked, the preceding day, a distance of ten or twelve miles, and had retired to bed at an early hour. His general occupation for the preceding two months had been daily labour at a farm-house in the neighbourhood; and on the Saturday, the day before this occurrence, he had worked hard, and felt pain about that part of the back from whence the numbness would appear to proceed. This pain he had also felt on the Sunday. In this helpless state he was removed to the parish to which he belonged, and I was desired immediately to attend him. Upon my arrival I found him lying upon a straw-bed on his back; and, upon uncovering the lower extremities, I found them cold, and that he had not the least power of motion or feeling in them. He told me also that the lower part of his body was in the same state. In answer to a question, "Whether he had passed any urine since the attack?" he directly answered, he had done so, but that involuntarily, and without the least perception of having done it at the time. The feces also came away involuntarily. It appeared to me very clearly, from the foregoing account, that pressure alone upon the spinal marrow could produce these symptoms, and I

was led to question him particularly as to any hurt or injury he might ever have received there. He at first assured me that he had no recollection whatever, either at a later or an earlier period of his life, of having received any hurt or injury; but, upon pressing him still farther to endeavour to recall to his mind some such accident, he told me, that, about nine or ten weeks before, he then recollected carrying a sack of oats up a ladder, and when he had got up about nine steps, it broke, and he fell upon a hard pavement with the oats upon his back. He was bled at the time, and soon got well, and felt no more of it, until he felt the pain, which had come on a day or two before this attack.

He had been fourteen years a soldier, and had been but lately discharged; had served in many campaigns, and in various climates, and had led a very dissolute life. Upon examining the spine the projecting processes of the vertebræ appeared natural, except the one at that part where the numbness seemed to be issuing from, and there the point of the finger rather fell in, and left an indentation, as if one of the lumbar vertebræ had been thrust a little forward upon the spinal marrow. From this particular part he said distinctly it was that the numbness and loss of sensation proceeded. And he likewise complained of a peculiar pain, extending up the spine from this part to the back of the neck.

There was now not the least appearance of redness or inflammation, or of there having been any at the time of the accident. He had felt, he said, neither much pain nor inconvenience, particularly after the first day; and whether the injury thus sustained had caused a slow inflammatory action, and that matter had at length formed, and pressed upon the spinal marrow, or that blood had become extravasated, and it was causing pressure, or from the slight derangement which appeared in the situation of the bones—that the pressure of bone itself was the cause,—which of these circumstances it might have been, I am unable to say, but that there was pressure of some kind, was self-evident, and of that kind or nature which appeared to admit of but little if any means of relief.

I immediately prepared the poor man's mind to look forward with great uncertainty to a successful termination or issue of his most unfortunate and melancholy case.

I bled him freely, administered some strong cathartic medicines, and had him removed to a comfortable bed. A repetition of these remedies was also observed, but without the least benefit or advantage.

The patient continued for ten days or a fortnight just in the

same state, suffering no pain, with a mind, for the most part, I should say, cheerful, and with an appetite so good that, to use his own expression, not only at this time, but many weeks after, he could eat any thing that was brought before him in the shape of food, it mattered not what.

About this time, from lying so long in one position, there appeared to be upon the hip-joints, on each side, an abrasion of the skin, attended with a degree of blackness and partial separation of the cuticle, as if incipient gangrene was taking place, and at my next visit I found that this was not confined to the skin, but extended rapidly to the contiguous muscles, spreading widely all around, and penetrating deeply in the direction of the hip-joints.

Another gangrenous abrasion of surface had also commenced in the back, immediately over the seat of the injury, and seemed to be making as rapid a progress as the others. His health now seemed to be suffering; and from the appearance of the ulcerations, which were in a state of complete mortification, I was led to expect, under such a state of things, that my patient would survive but a very short time. His appetite now failed him, and he had frequently cold rigors, succeeded by flushing heats running over him, but was altogether free from pain. He still passed both feces and urine involuntarily, and the loss of sensation and motion were just the same. The ulcerations around the hip-joints, however, began now to assume a most dismal appearance; for sloughings of a most extensive nature were taking place on both sides, as well as from the integuments over and on each side the spine, and that to a most extensive degree. The fetor arising from these places was most intolerable; and, with all the precaution that could be used by the attendants, the atmosphere of the room, to a person who came from a pure atmospheric air, was scarcely respirable. Its impurity seemed also to affect the persons around him, for they complained of sickness, vertigo, loss of appetite, &c. and came out with blotches. They still ventilated the apartment, which was a confined room, as well as they could, by keeping open the front-door during the greater part of the day, and the windows also. The sloughings at length came away, and laid bare the hip-joints on both sides, destroying not only the integuments over the joints, but penetrating through the capsular ligaments, and exposing a surface which measured in diameter not less than six or seven inches; that in the back still more extensive, passing through the intercostal muscles, so that the intestines behind became partially exposed.

The bones also became carious, and a partial exfoliation took

place from the processes of the vertebræ, and the whole of the os coccygis came away. In this most horrible state he was still free from pain, slept well, and at times ate and drank heartily. A disposition also to gangrene presented itself in the lower extremities at different places, particularly on each side of the heel, about the part where the tendo Achillis is inserted, and on the inner side of the foot.

As the case had appeared from the first altogether hopeless, I did not urge the necessity of his taking medicine regularly, being well convinced, that, in a case of this nature, it would have but very little effect, but directed my attention principally to keeping the wounds as clean as possible, and I found nothing had so good an effect in doing this as a poultice made with stale beer-grounds, and bread and milk, or oatmeal, and had them well washed frequently with milk and water.

Although in this dreadful state he suffered so little pain, and had so little knowledge of the actual state under which he existed, except from description, that he was led himself to think he might still live and do well,—at a time when the lower half of his body, and the whole of the lower extremities, were, if I may be allowed such an expression, " a living mass of putrefaction," for dissolution of the parts had actually taken place while life existed.

Slight ulcerations at length took place, and extended gradually *upwards* by the side of the spine, in a direction towards the shoulder, above the seat of the injury, and from these he felt much pain, and suffered considerably.

Into this state he had been progressively advancing; and on the 24th of March, better than two months from the time I had first seen him, he tells me he feels as well as ever he did in his life, (except that he cannot move or stir the lower extremities,) although the room in which he lies, from the fetor arising from the ulcerations, is so impregnated with the most nauseous effluvia, that I think a dissecting-room is not equal to it. His appetite at this date, he says, is good. He sleeps well, but the pulse is very weak, and much accelerated. He does not complain of thirst. The tongue is free from fur. His upper extremities are much emaciated. Coughs much, and perspires slightly every night. From this time he began gradually to sink, suffering, however, no other pain than what arose from the ulcerations above the seat of the injury; and on the night of the 28th of April he breathed his last,—from the time I was first called to him, exactly three months and ten days.

I had particularly wished, *post mortem*, to have examined the spine, and to have satisfied myself perfectly as to the cause of

this extraordinary case, and had obtained the consent of the poor man to allow me to do so, but his attendant neglected to inform me of his death at the time, considering, he said, it was impossible, in the state he was, for me or any other individual to remove that part of the spine, and he was, consequently, buried before I was aware of his death.

Chipping Ongar, Essex,
January, 1821.

VII.

Observations on the Tænia Solium ; and on its Removal from the Human Intestinal Canal by Spirits of Turpentine. By Robert Knox, M. D. Member of the Wernerian Natural History Society.

Sir,—Since the publication of the learned and elaborate work of Rudolphi on intestinal and other worms, * the numerous disputed points relative to the origin, growth, and propagation of these, seem to have been tacitly given up by medical men in favour of the opinions of that learned and ingenious author; or the inquiry, perhaps, has, from its abstruseness, been deemed beyond the present bounds of science. To the admirers of natural history it would be superfluous to offer any apology for these brief remarks on one species of intestinal worm; and to the practical medical man, few inquiries can be more interesting, as its aim is to elucidate the origin and treatment of an exceedingly obscure and untractable complaint.

It has happened to me to witness the disease of *tape-worm* on an extensive scale, and even, to a certain extent, to experiment on its nature. The observations I have made seem to throw some additional light on this very obscure subject. Should it appear differently to the readers of your widely circulated Journal, I shall still feel satisfied in having performed my duty to science, by submitting these cases and remarks to the public.

The colony of the Cape of Good Hope is remarkable for the general salubrity of its climate. It enjoys, indeed, almost an immunity from the host of diseases, to which, in other countries, mankind is exposed; to this there are a few exceptions, amongst

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* Entozoorum, sive Vermium Intestinalium Historia Naturalis. Auctore C. A. Rudolphi.

which may be reckoned the occasional prevalence of *tape worm*. It was long ago remarked by Dr Sparrman, that the colonists, or more particularly those inhabiting the banks of the great Fish River, "had very little knowledge of one of the most frequent and most troublesome disorders to which they were subject, and that was worms."* He observes, moreover, "that adults, and even elderly persons, seemed more generally troubled with the complaint than children."

This so great frequency of the disease amongst the colonists I have never observed, nor was my attention directed towards this subject previous to October 1819, when *tape worm* became so general amongst the troops as to resemble an epidemic. The greater part of these men had just returned from a short though active campaign of a few weeks; they had been exposed to some rainy weather, and had remained for a short time encamped on the open field; yet these circumstances were productive of no sickness, nor did any ailment occur, excepting the singular prevalence of intestinal worms, and more particularly of *Tænia Solium*.

There are a few general observations which it may be useful to mention, previous to entering on the more detailed account of cases and remarks. The disease was not confined to any particular class or rank in society; intestinal worms, of one or other species, attacked as well those enjoying every possible comfort, as those exposed to all privations; they spared neither the young nor old, temperate nor debauched, male nor female.

Of the troops employed on the eastern bank of the great Fish River, the proportion of those who became affected with worms, to those who escaped this troublesome complaint, appeared to me about two to five; the *ratio* of those who remained in the colony differed from the preceding, and probably did not exceed one to four. The *Tænia Solium* and other worms, more especially *Ascarides lumbricoides*, appeared, *for the first time*, in most of the individuals attacked; they were almost all, without exception, healthy young men, accustomed to much exercise, constant discipline, and regular habits. The greater number of the individuals affected could not remember ever having passed worms, even from their earliest infancy to the period of their attack in 1819. Intestinal worms were passed at this time by men who had lived several years in the colony, and who had not previously been afflicted with them. In one case the gentleman had been *nine* years in the colony before the attack of the disease.

* Sparrman's Travels, Vol. II. p. 127.

Cases and Observations.

Case I.—Of a detachment consisting of about 86 men, 38 were found, on inquiry, to be affected with worms; of this number, two had the *Ascarides lumbricoides*, and the remainder *Tænia Solium*. The detachment was composed of young healthy men, previous to the appearance of the worms. Those affected became, generally speaking, emaciated and weak, low-spirited, pale, and unhealthy. They laboured under other symptoms, which will be more particularly described in a future case. The cure of all who chose to adopt the means was easily effected by small doses of the spirits of turpentine, after the failure of purgatives and various other remedies.

Case II.—One of the above mentioned detachment, whose name I think was *Gardiner*, had resorted to a variety of methods in order to rid himself of so troublesome a complaint, but ineffectually. He had restricted himself entirely to a milk diet for about three weeks, with the effect of arresting the growth of the *tænia*, as few or none of the detached joints appeared in his stools during the continuance of this regimen; they reappeared immediately on his returning to the use of animal food. The spirits of turpentine were prescribed for him, in the dose of two drachms morning and evening. He, almost immediately after, voided by stool a portion of a *tænia*, consisting of about 240 distinct joints, each about $\frac{3}{4}$ of an inch in length; the unpleasant harassing symptoms which generally accompany the presence of *tænia* in the human body immediately left him, and did not return.

Case III.—A middle-aged man (a half-pay officer) had been affected with *tænia* for eight years, during which long period, an incredible quantity of drugs had been prescribed for the complaint, and taken without any permanent advantage. He had been under the care of several medical men, and his constitution was greatly impaired. During these eight years, he had been in the constant habit of passing detached joints of the *Tænia Solium* by stool, in great quantities, and his existence had become, in consequence of this and other complaints, truly miserable. Two drachms of spirits of turpentine in a little water were taken twice a day, for four successive days. He now passed the *tænia* in large connected masses; the symptoms of disease disappeared, and his health returned.

Case IV.—In this case, (also an officer,) the *tænia* appeared suddenly, whilst the individual enjoyed perfect health. He had never passed any worms previous to the present attack. The symptoms, as in most others, were acute headache, dyspnœa, fetid breath, grinding of the teeth, constant itching of the nostrils, stiffness of the lower jaw, sensation of pain in the temporal muscles, increased flow of saliva, sickness and pain of stomach, pains in the chest and bowels, slight tenesmus, paleness, general debility, emaciation. The complaint was observed to be much aggravated by the use of animal food, and a vegetable diet was found effectual in repressing the growth of the *tænia*, but did not succeed in removing the disease. A powerful

dose of jalap and calomel was prescribed, with the view of expelling, at least, the detached joints of the *tænia*, if not the worm itself. It proved useless in either way, for it neither expelled the worm entire, nor any of its detached joints. The cure was finally effected by the spirits of turpentine.

It would be tedious to enumerate more of the cases which occurred, as they bear to each other so close a resemblance; but there are circumstances regarding the action of the remedy employed, and the exciting cause of the complaint, which merit minute discussion.

It has been generally allowed by medical writers, that there is scarcely any part of medical science more obscure than the origin of intestinal worms. The works of the ancients contain no accurate observations on this interesting point, and the labours of later authors tended only for some time to involve the subject more and more in obscurity and error. Much was to be expected from the exertions of the natural historian, and from the aid of the microscope in the hands of men of science, accustomed to habits of correct observation, and to the impartial investigation of nature. This class of men *has* done much towards elucidating the nature of intestinal worms, or, speaking more generally, of *entozoa*, the name by which worms living within other animal bodies are distinguished. But great difficulties remain to be overcome, and the opinions maintained by the most accurate writer on this subject, (Rudolphi,) appear to me quite untenable.

A simple enumeration of the various causes which have been assigned for the production of intestinal and other worms, would convince an impartial reader, that such were inadequate to produce the effect, and were supported by men, who did not give credit to their own doctrines. The extreme difficulty attending such investigations will be made manifest by remarking, that the so justly celebrated Linné entertained notions regarding the origin, habits, and growth of *tænia*, which Pallas and Rudolphi have since proved to be entirely erroneous. It is unnecessary here to discuss the opinions of a host of writers so ably combated and refuted by these authors. It seems preferable rather to inquire into the causes which gave rise to intestinal worms, in so great a number of otherwise healthy individuals,—an inquiry fraught with interest to the medical practitioner; since next to the removing disease when present, the most important subject for investigation is its exciting cause.

The best authors have remarked, that, for the production of intestinal worms, a certain predisposition of the body is necessary, which foreign writers call a "*diathesis verminosa*," and

sometimes a "*dispositio verminosa corporis.*" This they describe as originating in scanty, unwholesome vegetable diet, and hence the frequency of intestinal worms amongst the poor; but they also assert, that debility, from whatever cause arising, may give origin to the same complaints. In confirmation of these opinions, they remark, that the inhabitants of low marshy countries, as Holland, are more subject than others to intestinal worms. All preceding theories having been disproved by minute microscopical inquiry, naturalists have admitted the preceding statements, and explained the generation of worms in the human body, by a process totally dissimilar to what is known to take place in the production of all other animals, and somewhat resembling the growth of mushrooms, from a *compost* employed for that express purpose. Nor do the careful expressions of Rudolphi diminish the difficulty, or explain away the absurdities attending the admission of such an *hypothesis.* "Organic particles," he observes, "are required for the production of *entozoa*, in the same manner as we find the classes of animals called *infusoria*, and *phytozoa*, and some *fungi*, are produced." In parts, he further observes, which have been organized, *(partibus organicis,)* as well animal as vegetable, and which have been macerated in water for some time, innumerable animalcules called *infusoria* are known to arise, and to be produced by a process not unlike putrefaction.

It is with diffidence that I offer, in opposition to the opinions of such accurate observers of nature, the following objections: Debility presents itself to the medical practitioner daily in a hundred forms, without being accompanied by intestinal or other worms. On the contrary, these appear in the strongest constitutions, particularly exemplified by the cases detailed at the commencement of these remarks. The individuals alluded to were, with few exceptions, young, healthy, active men. The climate of the Cape is remarkably dry, forming, as it were, the counterpart of Holland, and Hasselquist * says of Egypt, that the inhabitants are much afflicted with *tape-worm*, a practitioner in Cairo assuring him, that two-thirds of the inhabitants of that city were afflicted with them. Moisture, therefore, can have little effect in the production of *tænia.* Neither can a vegetable diet be blamed for its production, since many months had elapsed during which vegetables, bread excepted, formed no part of the diet of any of the individuals alluded to in the preceding cases.

* Hasselquist's Voyages and Travels, p. 386.

As *tæniæ* and other worms are occasionally found in fish, some writers have asserted that they are thus transferred to the human frame. The observations of naturalists have shown, that the *tæniæ* observed in fish and man differ essentially; and in addition, it may be remarked, that of the hundreds whom I have known to be affected with *tænia*, none had tasted fish for the period of at least six months previous to the appearance of the worms, and many not for years. It remains, therefore, to be explained, how so many young, healthy, active men, became suddenly affected with *tænia*, for assuredly no theory hitherto offered on the subject of intestinal worms throws any light on their origin in the present instance. From the disturbance worms generally create in the human frame, we should be inclined to adopt the conclusion, very different from that of preceding writers, and forming almost an exact counterpart, viz. "That intestinal worms are not natural to man." This opinion is confirmed by the constant efforts nature makes to throw off the disease,—efforts more or less obvious in different individuals, but perhaps existing in all. The *Filaria medinensis* has been classed with the *entozoa*, though several writers allow that it naturally exists in the wells and rivers of warm countries.

Intestinal worms are introduced into the human frame mixed with the food or drink, and, finding in the intestines an apt place for their existence, they there live and thrive; but they do not arise from a weak and injured digestion, and a consequent combination of matter capable of converting itself into intestinal worms. * Were we satisfied with such explanations, the origin of man, and all other animals, would be readily accounted for, from "a peculiar arrangement and combination of organic molecules placed under peculiar circumstances;" the story of the serpent *Python* would be no longer a fable.

Perhaps the strongest objection hitherto offered to the opinion, that *entozoa* are not generated within the bodies of man and other animals, but are transferred to them through the medium of the *ingesta*, arises from the fact, well ascertained, that intestinal and other worms have no where been found excepting within the *viscera* of other animals. But to this it may be observed, that the repeated errors committed by microscopical observers have brought this mode of observing natural phenomena into a certain degree of disrepute. The indefinite nature of the theory supported by late writers, that *entozoa* are generated

* "Dissimilatio vermes gignit.
"Vermes ex dissimilationis processu in corpore animali debilitato obtinente oriri statuit." RUDOLPHI.

within the *viscera* of man by a process our food undergoes when not properly digested, has retarded the advancement of knowledge relative to these animals. It has done worse: it has prevented minute inquiry into the immediate exciting cause of intestinal worms, into the particular article of food which more immediately produces them; and it has spread widely a few vague notions, that unwholesome coarse food, whether animal or vegetable, when introduced into a weakened stomach, will at all times give rise to the disease of worms. It seems of importance, therefore, to reduce the subject to a few determinate points, and, by subjecting the inquiry to a stricter analysis, enable succeeding observers readily to prove or confute the existing theory.

It may, I think, be admitted, that intestinal worms (or the matter capable of producing them) can be introduced into the *viscera* of man and other animals only with the food or drink. That they do not arise from the latter, may be conjectured from the following fact, that individuals using, for a series of years, water drawn from the same sources, have not been afflicted with *tænia* or other worms; nor did these appear until other causes, to which, with more probability, they might be referred, were also present.

The cases of *tænia* detailed in the commencement of this paper, occurred in a body of active healthy young men, subjected to the same discipline and privations, and using, with few or no exceptions, the same sort of food and drink. These circumstances merit peculiarly the notice of the professional reader, as it seldom happens that an experiment (for such it seems to me) can be made so extensively in civil life, where the habits of no two individuals resemble each other,—where the food and exercise of the sick are submitted to no precise rules,—and the dissimilarity in age, constitution, and previous habits of life, renders all general conclusions necessarily incorrect.

In men so situated, we must look to some general exciting cause of disease, the explanations hitherto offered of individual cases being totally inapplicable. The food of these men (for to it we must ultimately refer the disease) consisted chiefly of unwholesome meat, the flesh of overdriven, starved, and unhealthy oxen, reduced often to a mere skeleton, by fatigue, want of food, and exposure to the cold rains, which are observed to sicken and destroy most of the horned cattle and sheep which have not preserved their condition throughout the winter. The use of this sort of food, from peculiar circumstances, was unavoidable. I shall not here dispute the point, whether the *tæniæ* were transferred, as completely formed animals, from the unwholesome and *diseased* meat, to the stomach and intestines of

man, or are there generated; it is sufficient to have established the point, that they arise from the use of unwholesome animal food, —from the flesh of animals which have been diseased.

I have avoided, as much as possible, detailing any minute facts regarding the natural history of *tænia*, and other intestinal worms, supposing most practitioners in medicine to be acquainted with the leading *phenomena* of these animals. The following brief remarks I therefore submit to the naturalist, and claim his indulgence for any trifling error which may occur.

Various ridiculous opinions were formerly entertained regarding that variety of *tænia* called *Solium*, most of which have been successfully combated by the ingenious and accurate Rudolphi. It is now known that four individuals of the species *Tænia Solium* have been discharged by the same patient; hence the obvious impropriety of the name. The theory formerly upheld, regarding the indefinite growth of joints to supply the place of those detached from the body of the *tænia*, and passed by stool, has been rendered exceedingly doubtful. The *Tænia Solium* seems to be regenerated rather by an evolution of joints already existing, or by the production of new joints near that extremity of the worm where naturalists have proved the head to be placed. It is probable, therefore, that Rudolphi may be correct, when he states, that the joints of the *Tænia Solium* do not increase in number, but in length; or we may assent to the opinion of Pallas, who seems to think that there may be a reproduction of joints towards the head extremity of the animal. *

It is no longer disputed by naturalists, that in the small perfect *Tænia Solium* there are constantly found a distinct head and tail joint, which is not perforated by any vessel or tube; but as the animal, when suffered to come to maturity, secrete joints in great numbers, which pass off with the *fæces*, it is obvious, should the observations of naturalists be correct, that the tail joint must *first* be detached, and unless regenerated at a future period, ought never afterwards to be found in the animal. This difficulty has been slightly touched on by preceding writers. It seems to prove that the longevity of the animal is considerable, and that its original habits must have become altered by residing in the human intestines, for the secretion of the tail joint can hardly be considered as a natural process. A change of localities is observed to exert a certain though limited influence even over man and the class *mammalia;* but over animals of

* It is a remarkable fact, that no well authenticated case exists of worms being found in the intestines of the fœtus or infant at the breast.

obscure vitality, and over the vegetable world, (to which *entozoa* bear close resemblance,) the power of external agents knows no limits. By a change in their place of abode, by the slightest change of climate, or culture, they not unfrequently become so remarkably different from their original or parent stock, as with difficulty to be recognised. Hence it probably happens that the *tænia* has never been detected but in the intestines of man and other animals.

Intestinal worms infest granivorous quadrupeds, and particularly the horse. They appear generally during winter, and quit him as soon as he is permitted to regain his flesh and strength on the spring pastures.* The presence of worms in the intestinal canal of man may be suspected when a few of the symptoms already enumerated are present; nor ought the practitioner to doubt the correctness of his diagnostic, on finding that a few doses of a purgative medicine do not bring off worms by stool. The *Tænia Solium* will betray its presence in the intestines by the separation and discharge of distinct joints. When other varieties of *tenia* are suspected, the patient ought to have recourse to *anthelmintics*. The *dyspnœa* occasioned by the *Tænia Solium* is a remarkable symptom, and may in some cases lead to an early detection of the complaint; but the superabundant secretion of *saliva* is connected with many disorders of the frame, and cannot be deemed a test either of the presence of worms, or of the recent use of mercury, but rather as a symptom of general bad health.

A variety of drugs and *methods* have been recommended for the expulsion of *tæniæ* and other *entozoa* from the intestines of man; these may be reduced to three heads.

1*st*, Mechanical remedies, as *pulvis stanni*; large doses of *aloes* taken in the form of pill, (which have been known to expel *tæniæ* from the intestines,) probably act in the same way. This method sometimes succeeds, but is exceedingly uncertain.

2*dly*, Drastic purgative medicines which occasionally are found successful in expelling the *tænia*, but whose operation is attended with disagreeable symptoms, and not unfrequently irreparable injury to the constitution. Milder purgatives are often exhibited, preceded by *bitters* and *aromatics*.

3*dly*, *Anthelmintics* or drugs which destroy intestinal worms, by being inimical to their vitality. Of these the most efficacious is *spirits of turpentine*, given either alone, or compounded with

* When young sweet grass cannot be obtained, the worms are generally expelled by a dose or two of melted fat, taken from the tail of the Cape sheep.

empyreumatic animal oil, as in the celebrated preparation of Chabert. I have generally found, that from one or two drachms of ol. terebinth. given in a little water, morning and evening, for three successive days, were sufficient to destroy the *Tænia Solium*,) even in the most obstinate cases,) and cause it to leave the intestines without the aid of any purgative medicine. The practice, however, of exhibiting a little castor oil about noon of each day, is unobjectionable, and may be useful, as the turpentine never purges the patients. The narcotic effects produced by turpentine on *tæniæ* and other worms may be judged of by the fact, (ascertained by several experiments,) that when one drachm only has been taken, and the patient has declined continuing its use, an immediate stop is put to the secretion of separate joints by the *tænia;* the vigour of the worm is destroyed; it sickens, and in proportion to its unhealthy state, does the patient regain his health and strength. Should the turpentine not be repeated, the worm recovers slowly, and after the lapse of an uncertain period, (two or three weeks,) the usual secretion of joints recommences. A large dose of spirits of turpentine, (from four to eight drachms,) produced in many patients unpleasant symptoms, such as intense headache, vertigo, and a confusion of ideas, amounting to temporary delirium. Neither wine nor spirits should be drank during the use of turpentine, lest strangury be produced. Food ought to be avoided on the mornings of using the medicine, nor should any be taken in the evening. The turpentine has been found most rapid in its effects, when taken about 8 or 9 A. M.

Oil of turpentine has been used with success in cases of *tænia* on the Continent, and more particularly in Germany, for at least fifty years. To it the celebrated preparation of Chabert owes its remarkable efficacy. *Ascarides vermiculares* are easily expelled by the same drug; and it is probable that no intestinal worm will remain in the intestines, if the system be kept under the influence of oil of turpentine for a few days.

Many alarming symptoms have been known to arise from the presence of worms in the intestinal canal, particularly nervous disorders, as epilepsy and convulsions. It is not improbable that *chorea* may often depend on the presence of worms in the intestines, and its removal by the continued use of purgative medicines would seem to confirm this conjecture. I have seen a high degree of nervousness existing in many patients affected with worms, and have found that this nervous state disappeared with the removal of the exciting cause.

March 16, 1821.

VIII.

Case of Traumatic Tetanus, successfully Treated by Amputation. By JOHN WAYTE, Esq. Surgeon, Calne.

ROBERT TILLING, eight years of age, of quick intellect, whilst playing around a lime-kiln on the 18th of April 1818, was affected with insensibility from some unknown cause, and fell beside the kiln in such a manner, that his right hand was forced into the burning lime. Not having seen the case at first, I am unacquainted with the early symptoms; but a week after the accident, when placed under my care, I found the second and third phalanges of all the fingers, as well as the second bone of the thumb, burnt to blackness, and nearly thrown off; with an extent of slough which threatened to deprive a part of the hand on each side of its integument. The separating process advancing rapidly, the first phalanges were soon denuded of periosteum to half their length, around which healthy granulations were produced, but presenting a surface so extensive and irritable, that even the mildest dressings, applied with the greatest tenderness, occasioned great pain. Although from this extreme sensibility, as well as from the mobility of the exposed bones, the latter could not readily be sawed off, it was my intention to have attempted their removal, when the occurrence of worse symptoms arrested my attention. I now observed the boy's countenance to be peculiarly pallid, and indicative of distress; the eyebrows corrugated, and the features shrunk, with a pulse much increased in frequency. On requesting him to show me his tongue, I discovered that he was unable to separate the jaws wider than just to protrude its apex; there were also rigors, and slight spasmodic catchings of the body. On the following morning a striking correspondence was observable between the constitutional symptoms and local appearances. The granulations wore an unhealthy aspect, being soft, glossy, and somewhat livid, yielding a sanious discharge and an offensive fetor. The tumefaction was increased, and the sensibility exquisite; the stiffness of the jaw and spasmodic twitches had become complete trismus and opisthotonos. Not a thing could be inserted between the teeth, and I could raise him from the horizontal to the erect posture without the slightest flexibility. He was perfectly sensible; but on removing the dressings, although done with the nicest caution, he was liable to be thrown into the most violent universal spasm, attended with profuse

perspiration, and a discharge of viscid saliva from the mouth. On these occasions, his occiput and heels were the only points in contact with the bed, whilst his elevated abdomen, notwithstanding the contracted state of its muscles, described a considerable arch. At the commencement of each paroxysm, he invariably expressed acute pain of belly, which I attributed to the distention of the recti abdominis in a state of spasm, by the overpowering action of the extensors of the back. With these symptoms it required little penetration to perceive that death must soon ensue, unless the chief exciting cause (that is, the injured part) was speedily removed; and even from this plan, in so severe and strongly established a case of tetanus, little success was to be expected, according to the prevailing opinion.

This course, however, I determined to pursue, and, accordingly, on the 30th of the same month, at the interval of twelve days from the accident, and of two from the approach of tetanic symptoms, I amputated his hand at the wrist. From that moment the process of recovery may be dated; for although no instantaneous good effect was evident, or looked for, yet the symptoms soon began to diminish in severity, and the efforts of nature, being relieved from an overwhelming obstacle, proceeded without interruption until the cure was accomplished. It is remarkable, however, that, in the early periods after amputation, he was thrown into spasmodic paroxysms at each dressing, and would be frequently awoke by them during the night; at which times the spasms were observed to be more quickly relaxed, when, by firmly clasping his mother's neck with the sound arm, he endeavoured to bend himself forwards. These paroxysms continued upon him some time longer, at more distant intervals, and with diminished severity. But, on the 30th of May, the stump was completely healed, and, by the 5th of the following June, he was enabled to pursue his usual amusements with his play-mates. I afterwards learnt that his appetite was good, that all muscular action was perfect, and that he never experienced any return of spasm.

Observations.—Tetanus, in all its forms, is a disease so distressing, both to patients and their medical attendants,—the former being usually conscious of its nature and tendency, and the latter too well aware of the inefficacy of human means for its relief,—that I trust a few observations upon the subject in general, and more especially upon the case above related, will not be deemed altogether superfluous. The ordinary distinction into idiopathic and traumatic tetanus, although not suggested by any obvious difference in symptoms, seems a very proper one; and it will probably hereafter be found, that the scientific treatment

of the former rests on analogies drawn from the latter. Exposure to cold and wet, more particularly in a hot climate, is almost unanimously admitted to be the principal exciting cause of the idiopathic form. But with respect to the traumatic tetanus much diversity of sentiment prevails, some supposing that it arises from wounded nerves, others from wounded tendons, or, what is nearly synonymous, from tendinous sheaths. This question should, if possible, be satisfactorily decided, in order that a suitable and consistent practice may be adopted. Now, *a priori*, it seems reasonable to expect, that those parts which are naturally the most sensible should exhibit the greatest increase of sensibility under inflammation, and communicate the highest irritation to the system, and this is found in fact to be the case. Nerves, again, are the universal media of sensation, whilst tendons have little or no feeling in the healthy state, and not much, I am inclined to think, when inflamed. The exquisite pain experienced when matter is collected under the theca of a finger, seems rather to arise from confined pressure on the highly sensitive surrounding parts, than from inflammation of the theca itself; for almost immediately on making a free incision through it, and affording an outlet to the pus, the pain ceases,—surrounding inflammation subsides,—and recovery ensues. Such, also, is often the case with matter collected under the tendinous aponeurosis of the arm or thigh, with this difference, however, that, as it is more readily diffused, the pain is usually less acute, depending not so much on the quantity of pus as on the closeness of its confinement. Thus, also, we see exposed tendons bearing the knife, without evincing sensibility, and the largest tendon on the body, the tendo-Achillis, as well as its aponeurotic attachment to the gastrocnemius muscle, lacerated without exciting much disturbance in the constitution. On the other hand, we find traumatic tetanus generally arising from wounds in the hands or feet, where nerves abound and sensibility is exquisite, and occasionally from apparently slight injuries of parts having nerves, though wholly unconnected with tendons. In the case before us, it will be observed, that, prior to the occurrence of any tetanic symptoms, the sloughing process had rapidly proceeded, and had separated ligaments, tendons, and integument, so as to leave a healthy granulating surface, surrounding, and partly covering the half denuded phalanges. Had any experienced practitioner witnessed the condition of parts, their extreme sensibility, and how instantaneously and violently the whole body was agitated upon the nicest application of dressings, I have little doubt but that he would readily have referred both the

pain and spasm to highly irritated nervous papillæ, and not to injured tendons. It was with such an impression, and from a conviction that the natural powers of recovery were struggling with an obstacle which they could not overcome, that I amputated the hand at the wrist; and, although no other remedies were employed, except one anodyne draught before the appearance of tetanus, and an occasional mild purge, the operation was attended with the happiest results. Without meaning to build too far on a rare and insulated case, I am, however, disposed to conclude,

1*st*, That all irritations in laying open of wounds, or by making partial excisions, should be avoided in traumatic tetanus.

2*d*, That, on account of the peculiar abundance and sensibility of the nerves supplying the papillæ of the palm of the hand and sole of the foot, and the readiness with which impressions of all kinds are propagated amongst them, I should never be satisfied by the amputation of a finger or toe, but should recommend the removal of foot or hand, however insignificant the wound might be.

3*d*, That, in idiopathic tetanus, on a similar principle, the object should be to allay the undue excitement of the nervous system, by the use of various narcotics in different modes, either in combination or in succession, at the same time to attend closely to keep the bowels in a soluble state.

IX.

Case of Polypus, successfully removed by Operation from the Antrum Maxillare. By Robert Liston, Surgeon, Lecturer on Anatomy and Surgery, &c. &c. communicated to Dr Duncan Junior.

Dear Sir,

I now perform my promise of drawing up for your valuable Journal an account of the case of polypus of the maxillary antrum, in which you expressed yourself so much interested, when you had the goodness to examine the patient during the progress of the cure.

About fourteen months ago, R. B., a stout and healthy middle-aged man, was seized with most violent headaches, which

were by and bye followed by a feeling as if the bones of the head and face were about to be torn asunder. The pains were so excruciating at that period, and indeed continued so till the time of the operation to be detailed, as almost completely to deprive him of rest during the night, and prevent him from following his occupation during the day. These symptoms were speedily followed by stuffing in the right nostril, and the appearance of a tumour in the cavity. The poor man, worn out by the suffering and discharge attendant on the disease, applied for assistance at the Royal Infirmary, where he lay in inexpressible agony for three weeks, with an immense tumour projecting from the nostril over the upper lip, during his sleep threatening suffocation, occasionally bleeding, and at all times affording a profuse and fetid discharge. At last the protrusion was removed, and the patient dismissed. When I saw him, immediately after, I was led to suspect, from the tenderness of the gums, and pain experienced on pressing the teeth of the right superior maxilla, though there was no very perceptible enlargement of that cheek, that the mischief had its origin in the antrum. I, however, cleaned the nostrils by means of the knife and small crochet, (for both were crammed with solid tumours,) and traced the disease through the maxillary plate of the right nostril. The patient, though much relieved in all respects by this comparatively complete operation, was soon brought into the same state by the renewal of the growth. No hope could now be held out of a permanent cure, unless the antrum were opened, and the disease extirpated from its root. Accordingly, by one stroke of a straight-edged bistoury, the upper lip was divided, and, by a little dissection, the thin anterior part of the maxillary bone exposed. The tumour was found to project a little at this point. A pretty large trephine was applied wide of this projection, and the bridge betwixt the two openings broken down with cutting forceps, so as to give room for the free introduction of the finger and knife. The antrum thus exposed was cleared of the numerous hard tumours with which it was completely crammed, and which adhered principally to the outer side of the cavity, by means of small curved convex and concave probe bistouries. The walls of the sinus had been absorbed both before, behind, and towards the nose; allowing the tumours to project under the integuments of the cheek, into both nostrils, through the septum, and behind the soft palate into the top of the pharynx. The operation was finished speedily, and the cavity, which was immensely distended, filled immediately with lint, so that the patient lost very little blood. The masses removed filled a pretty large breakfast cup, and weighed nearly three ounces. At two different periods the parietes of the antrum were touched freely

with the actual cautery, more especially towards the outer side. The opening in the cheek was preserved for nearly six weeks, so as to allow of lint, steeped in tincture of myrrh and laudanum, to be daily introduced. When the whole parietes appeared perfectly healthy, the edges of the lip were made raw, and brought together so as to leave very little deformity. Some small portions of polypus appeared in the nostrils after the operation, but were extracted, and apparently eradicated, by the use of the lunar caustic conveyed on a bougie.

I am induced to offer this case for publication; no one, as far as I know, having appeared since that of Desault. I am aware that two attempts were made by a late celebrated surgeon of this city to remove tumours from the antrum, but in both but a very trifling portion of the disease was extirpated. One of them was rather unfavourable, the disease having extended through the floor of the orbit. In the first one, an attempt was made to open the cavity, by merely raising the lip and perforating above the gum. In the other an incision was made in the fold of the cheek, but without dividing the lip. In neither could a sufficient opening in the bone be procured. In these cases ineffectual attempts were afterwards made with lunar caustic to destroy the disease. The patients lived but a very short time, and the preparations demonstrate forcibly the futility and inefficacy of such half measures. By the employment of the actual cautery in this and other cases, I am sensible that I expose myself to the charge of recurring to a practice of the older surgery, which has been abandoned in this country at least, as cruel and barbarous. The substitution of the potential cautery, however, in many circumstances, I make bold to assert, is not an improvement in surgery. Most caustics produce more pain, and are much less effectual than that which has been given up. One application of the actual cautery is more effectual than ten applications of the potential, and that one is less painful than any one of the ten. The pain of the actual cautery is momentary, that of the potential fully as great, and continues after the application, sometimes for days. These assertions I make after considerable experience, and in some remarkable instances I have the testimony of patients who experienced both pretty extensively. The actual cautery, however, is not a remedy which I would recommend, except in desperate circumstances. In affections of the bones it is well known that the cautery is freely used by the surgeons on the Continent. But it may also be used in affections of the joints under particular circumstances with great advantage.

I will take an opportunity of presenting cases, in which, by

this and other means, limbs have been saved and rendered serviceable, even though the joints were very extensively diseased. To the aphorism of Hippocrates I completely subscribe,

"Quæ medicamenta non sanant ferrum sanat, quæ ferrum non sanat ignis sanat, et quæ ignis non sanat insanabilia."

Edinburgh, May 18, 1821.

X.

Case of Pneumonia, with Observations. By JAMES KIND, Surgeon, Camilton.

IT is generally a matter of little or no difficulty to distinguish pneumonia from every other complaint; still cases do occur, and that not unfrequently, where, from the great variety of symptoms, considerable difficulty is experienced in forming a correct diagnosis. It is true, indeed, that where the symptoms are severe and well marked, little doubt can be entertained of the existence and real nature of the complaint; but where, on the other hand, they are of less severity, and when then accompanied with other symptoms, equally prominent, indicative of a different disease, the utmost attention and diligence will be requisite to form a correct notion of the complaint. Where, for instance, along with slight symptoms of inflammation in the chest, we have others of greater severity, indicating a derangement of the digestive organs, while both sets of symptoms are of the same continuance, or nearly so, it will be often difficult to mark with accuracy the primary disease, or to discover whether they may not be altogether independent of each other.

The following case commenced with symptoms highly indicative of derangement of the digestive organs, which were soon followed by others, marking in an equal degree inflammation of the lungs. These last (so far as we could judge from appearances) were soon overcome by a strict adherence to the antiphlogistic regimen: while the former (those characteristic of derangement of the digestive organs) continued to harass the patient till death put an end to his sufferings. Dissection, however, showed that the affection of the digestive organs was so trifling as to require little or no attention, while the complaint in his breast, though far from being well marked, was the great cause of all his sufferings.

On Monday, the 22d July 1820, was sent for to visit A. B. a tall meagre man of 34 years of age. His constitution appeared to be much worn out and debilitated. The countenance was pale and anxious; his eyes languid and heavy, and seemed as if sunk in their sockets.

His complaint commenced about four days ago, with considerable debility and great aversion to exercise, with pain in the right hypochondriac region, shooting up on the same side to the shoulder and clavicle. Since that time the pain has continued to increase, and is now severe, not more so, however, in taking a full inspiration. Free from pain; skin moist, and heat natural; bowels rather slow; tongue foul, and covered with a dark-coloured crust. The following is the account he gave me of his complaint previous to the time I first saw him.

He was a soldier early in life, and as such he served five years in a tropical climate, where he was discharged ten years ago, being unable for duty, owing to a complaint he then laboured under, supposed to be an affection of the liver, and as such it was afterwards successfully treated by the usual practice. About five years after his return from India he was again attacked in a similar manner, and again the same mode of cure proved effectual. From that time up to the 22d July last, he enjoyed better health than he had done for years before.

From this account, and from a consideration of the symptoms already mentioned, I considered it to be a derangement of the digestive organs, particularly of the liver, though no external swelling was perceptible below the margin of the spurious costae. I prescribed a dose of salts, but these not operating, a purgative of grs. viii. of calomel, with a ℈i. of the comp. powder of jalap, was given him soon after, and a blister applied to the part affected. In the evening an emetic was given, at his own request, which operated well, evacuating the stomach of a bitter fluid, in every respect like bile. From this, and from the sickness at stomach, and pain of right hypochondriac region continuing, it was reasonable to suppose that the liver was affected, and that, in all probability, it was a fresh attack of his former complaint. As mercury, from his own account, had been of so manifest advantage in the two former attacks, and as no symptom was present to contraindicate its use, I thought it the most advisable treatment to begin again with the calomel, (the preparation formerly found of service,) giving grs. iii. every four hours.

The pain continued to be felt in the hypochondriac region in defiance of the blister and exhibition of the calomel, till the evening of the 26th, when, about nine o'clock, it shifted to the situation of the third rib on the same side. Breathing became oppressed; heat increased; skin harsh, and dry to the touch; pulse 108, and strong; bowels still slow, unless when kept open by physic. Tongue foul, and breath particularly fetid. As the pain in the chest, together with the cough and inflammatory nature of the pulse, indicated the presence of inflammation, it was thought proper to have recourse to blood-letting. Blood was accordingly extracted to the extent of ℥xx., from which he

seemed to derive great relief. The blood formed into a firm coagulum, but no buff was exhibited.

The following is the report taken at my visit the next day: "Pain continues to be felt in the chest, but breathing is performed with more ease. Has at present a short hollow cough, at which time he feels pain in the right side, below the margin of the false ribs, which stretches up to the clavicle of the same side. Vomited yesterday a thin yellow fluid of a sour taste. Pulse more moderate in frequency, and not so full. Heat of skin abated. No alvine discharge. Tongue continues foul."

As the detraction of blood had been so serviceable at last visit, I again took from the other arm ℥viii. but was deterred from any farther evacuation, owing to my patient being attacked by frequent fits of fainting, and the extreme debility of his constitution, which was much shattered by his residence abroad. The calomel pills were ordered to be continued, and salts to be given till the bowels were freely opened. This morning his sufferings were certainly rather abated; in the evening, however, a very troublesome cough supervened, attended with pain in the right hypochondrium, and in the situation of the scapula.

On the following morning, at my visit, the breathing was short and anxious; pulse frequent and strong; tongue still foul and breath fetid. Blood was again extracted, in the horizontal position, to the extent of twenty ounces, and when allowed to cool it exhibited the buffy coat. Returning in the evening, the following is the report: "Feels easier; has had no cough to-day; pulse less frequent and soft; heat of skin abated; pain, however, continues to be felt in the situation of the liver, on taking a full inspiration. Another blister was ordered to be applied to the part affected. This was at five o'clock. I called again at eight, resolved to persist in the bleeding, if the symptoms indicated. But I found him easy; pulse soft and full; skin moist, and heat at natural standard."

The report on the following morning is very favourable. "Blister has risen well; salts have operated four or five times; has had no cough; pulse calm; seems much better." My patient was, however, far from being well. There was total want of appetite; foul tongue, with occasional sickness at stomach. The exhibition of the calomel was persisted in till the 3d of the month. He had then used it eight days, and yet not the least perceptible influence could be observed on the constitution.

On the 4th (the following day) the report is, "Pain of right shoulder continues; is occasionally troubled with cough; and then a slight pain is felt between the 5th and 6th ribs of the same side. Expectoration copious; has had three motions during the night; tongue covered with a dark dry crust; pulse soft, and skin pretty cool."

The pills were this day ordered to be omitted, as they had not as yet produced any effect on the gums, and as we might, by persisting in their use, increase that complaint, if only an affection of the lungs

existed. Pills ex pulv. scillæ grs. ij. submur. hydrg. gr. i. op. gr. ss. were ordered in place of the calomel. During the whole of that night the cough continued very troublesome; but as morning approached it abated.

On the 5th the pill. ex scilla were continued, but no alteration was experienced. The tongue continued crusted, and the appetite gone. Again, the opinion that the chylopoetic viscera were deranged recurred, and it was resolved to have again recourse to the calomel conjoined with purgatives.

On the following day a sense of weight was felt in the right side, not increased by taking a full inspiration. The lungs were therefore supposed not to be the primary affection, but that there existed an enlargement of the liver, although it could not be felt below the margin of the ribs.

On the 7th severe pain was felt in the right hypochondriac region, below the margin of the spurious costæ, and the consequence of this was, that the calomel was the more strictly adhered to. The cough continued to distress the miserable sufferer, and during the paroxysms he was troubled with severe and repeated attacks of vomiting.

On the 10th the pain of the right hypochondrium still continued to be much complained of, for which frictions, with mercurial ointment, were prescribed. On the 11th, at my visit, I was told that he had passed a good night, and that the pain was much easier. In the evening, however, the following is the report: "About 11 A. M., felt a sensation of something bursting in the chest. By cough has expectorated a very considerable quantity of yellow matter of a fetid smell; has no pain in any situation; tongue still covered with a dark crust; pulse 85, soft and full." A draught, containing a ʒi. of paregoric elixir, was given in the evening, after which he felt easier.

On the 12th the stomach became very irritable, rendering it almost impossible to prevent even the most gentle nourishment from being vomited as soon as taken. His temples were bedewed with moisture, and felt warm, while the other parts of his body continued cold. Tongue now became cleaner on the edges. Pulse regular, and soft.

On the 13th the calomel pills were omitted. They had as yet produced no effect on the constitution, nor had they any influence in moving the bowels. Matter was copiously expectorated. Ammoniac mixtures, with tincture of opium, squill mixtures, with paregoric elixir, and squill pills, had little or no influence in alleviating the distressing cough. On the 19th, in addition to his other sufferings, pain was felt in the left hypochondriac region, supposed to arise, in part at least, from the severe coughing. Camphorated mercurial ointment was rubbed into the part, which he thought of benefit. On the 22d, at 1 o'clock, P. M. death put an end to his sufferings.

The body was opened on the second day after his death, when the following morbid appearances were observed:

The lungs on the left side appeared perfectly healthy; the right, however, adhered along the side of the sternum, and also to the pericar-

dium and superior part of the diaphragm. On separating the adhesions from the sternum, about 4 lbs. of purulent matter were observed between the lungs and the pleura costalis. The pleura was covered with a thin layer of coagulable lymph, which was easily removed, and found to be very vascular; and on its removal, the pleura itself was found to be more than naturally so. The lung floated in the matter; its superior lobe appeared to retain its natural structure, while the inferior parts were firm, and when cut into, matter was squeezed from the cells. The liver was considerably enlarged, and was found adhering to the peritonæum. The spleen was found adhering to the diaphragm, and to the stomach, which was very much distended, and contained upwards of a pound and a half of dark fetid fluid. The coats of the stomach appeared much thicker than natural. The duodenum was very much distended. The small intestines were considerably distended, and in some parts adhesions had formed between the convolutions. The colon was in some parts considerably contracted, particularly near the sigmoid flexure.

This was certainly a complicated case. Upon dissection great disease was exposed that had scarcely ever been suspected, and which, judging from the nature and severity of the symptoms, was but little to be dreaded during life. No symptom indicating inflammation of the lungs existed before the 26th. Previously the foulness of tongue, the sickness at stomach, and vomiting of bile, indicated deranged action of the digestive organs. The inflammation then existing was, or rather appeared to be, overcome by a free use of the lancet, conformable to the urgency of the symptoms. It is to be regretted, however, that the bleeding was not carried to a greater extent. The relief derived from the first evacuation ought to have encouraged a repetition, as pain continued to be felt in taking a full inspiration. As the pulse became calmer and softer it was not repeated till the following day, when an exacerbation of the symptoms induced me again to have recourse to it, and the blood then extracted exhibited the buffy coat. Had the calomel been instantly omitted, and the case trusted to blisters and more copious evacuations, I would have had no occasion to regret the practice. The insidious nature of his complaint, however, together with an abatement of the inflammatory symptoms, and the debilitated state of his constitution, were, in my opinion, sufficient reasons for adopting the treatment already mentioned.

If it could be shown that along with inflammation of the lungs the liver was likewise diseased, would the exhibition of the calomel been admissible? Throughout the whole disease there were evident symptoms of derangement in the functions of the

liver, and the adhesions seen on dissection were proof positive that inflammation had there existed. But might not these adhesions be a consequence of the violent action of vomiting? Or were they not rather the cause of the violent vomiting? The most probable way of accounting for these appearances is this: The vomiting in all probability was brought on by the convulsive fits of coughing, in consequence of the well-known sympathy that exists between the lungs and the stomach. The vomiting, thus excited, is the most probable cause of the unnatural adhesions the liver and spleen had formed. Taking what we have now stated for granted, the exhibition of the calomel was injurious, or, at all events, useless and unnecessary, as the affection of the liver, so far from being the greater part of his complaint, was but trifling, and only to be cured by the removal of the exciting cause, the severe paroxysms of coughing. That the vomiting was occasioned by the coughing is rendered the more probable, as no marks of inflammation of the stomach were observable on dissection.

There can be no doubt but that the primary complaint was pneumonia, and that the diseased state of the other organs exhibited on dissection were merely secondary and of little consequence. The abscess seems at first to have burst into the air cells of the lungs, but in the process of the cure the violent convulsive cough, rupturing the pleura pulmonalis, the matter found its way into the cavity of the thorax, forming empyema. The stomach of course sympathized, and the violent vomiting, often a consequence of pneumonia, caused the inflammation of the adjacent organs. This is a more natural way of accounting for the appearances seen on dissection, than to impute them to the improper use of calomel; for it cannot be possible that this medicine could induce inflammation in a distant organ, without exciting increased action in the alimentary canal. Had violent purging supervened after the use of the calomel and purgatives, we might have been justified in thinking that the inflammation which followed was occasioned by the use of the medicine; but in this case the bowels were never moved unless by the aid of opening medicine; and during the whole course of the complaint no symptom of inflammation of the bowels ever made its appearance.

That calomel is not always injurious in cases of pulmonic affection, the notes of a case which I have beside me, and which occurred in the practice of a friend, go directly to prove. The patient was evidently of a scrofulous constitution, and had unequivocal symptoms of phthisis. His digestive organs had been for a considerable length of time very much deranged, and dif-

ferent modes of cure had been tried, all of which proved ineffectual. At length, evident symptoms of inflammation of the liver supervened, for which, after proper evacuations, calomel was prescribed, and persevered in till the mouth became slightly affected, and then a speedy removal of all the symptoms was the consequence. Perhaps the cure may be attributed to nature, but taking that for granted, it still proves that calomel is not always injurious in cases of pulmonic affection.

This case is directly in proof of what Dr Hunter has somewhere stated, that two actions cannot exist at the same time, the more powerful always overcoming the weaker. When severe inflammatory action exists mercury does not produce its effects on the constitution. If we admit the truth of this observation, the reason the mouth never became affected is obvious.

8th February 1821.

XI.

Case of Abdominal Tumour, with Dissection. By Ebenezer Gairdner, M. D. Fellow of the Royal College of Physicians.

Dunfermline, Sept. 17, 1820.—Euphemia Watson, ætatis 10, is now affected with great tumefaction of the abdomen, which throughout feels excessively tense, neither fluctuating nor elastic; at the right hypochondrium particular hardness is felt, which seems to extend transversely downwards into the left ilium, where it is more distinct and hard; no pain is excited on rather a rough handling or pressure of any part of the abdominal region; countenance pale; conjunctiva natural colour; pulse 120, rather sharp; tongue rather moist; not much thirst; appetite somewhat capricious; no disposition to vomit; urinary functions natural; bowels rather slow, and kept easy only by the use of medicine, but a sensation of great oppression seems to be felt in the bowels.

About four weeks ago she had an attack of scarlatina, which was mild, and yielded to the cooling treatment, but Mr Bowes the surgeon, about two weeks thereafter, observed the belly to be very tumid, with little or no pain on pressure, and no fluctuation, and the natural constitution of the family led him to suspect that it might be an affection of the mesentery.

Some months ago, she had complained a little more than

usual; she then felt a slight pain at the right hypochondrium, from a slight blow from a form at the school, to which very little attention was paid at the time.

Though pretty healthy, the child had rather a delicate constitution, and when any purgative medicine was advised to be taken, she had so great an aversion to it, that it was seldom if ever administered. Cathartics have lately been exhibited, followed by the gentle use of mercury, without affecting at all the constitution or producing any relief.

The mercury was now ordered to be intermitted, and cathartics of calomel and jalap, with the free use of clysters, also fomentations and the tepid bath, were prescribed, which brought off much fetid feces of a clay character. On the 19th the hardness was still more distinctly felt to be circumscribed, particularly at the left ilium. The cathartics and clysters continued to induce copious fetid discharges of liquid and scybalous feces, mixed with matter of a shreddy appearance, with considerable relief, as, without the frequent use of these, there was a disposition to torpidity of the bowels, with great oppression; but little or no impression was made on the tumour, though, on the 23d, the circumference of the belly measured one and a half inch less than it was on the 17th.

We again had recourse to mercury, exhibiting it principally by unction, and the oxymuriate bath, but without producing a constitutional or any of the desired effects.

The fecal discharges continued to indicate a high degree of derangement of the abdominal functions. Besides the appearances above noted, they were frequently bilious, at times tinged with blood, and at the last of a variegated and ocherey colour, generally excessively fetid; yet no pain was felt by external handling or pressure, until October 4th, when considerable tenderness and pain were experienced at the right hypochondrium, followed by some slight convulsions of the head and limbs, which soon abated. She died on the 7th. Throughout, and to the last moment, she remained quite sensible, and she seemed to be rather acute as to the intellectual functions.

October 8th.—Sectio Cadaveris.—The body shewed no external discoloration; the peritonæum could only be partially dissected, being much diseased, gangrenous in some places; on opening it at the umbilicus, there rushed out a quantity of gas, which had the odour of sulphuretted hydrogen, and we at once came into the body of an immense tumour, which was encysted or enveloped by the peritonæum and mesentery, occupying nearly the *whole anterior part* of the abdominal cavity; but its principal mass seemed more particularly to extend from the

right hypochondrium downwards into the left iliac region, where it was hard and firm, of a cartilaginous and sarcomatous nature, and in the upper part there was contained much of a brown and variegated matter, somewhat liquid, like to that which had lately passed by the bowels, with masses of fungous matter. The contents of the tumour could not be well measured, but must have exceeded four pounds.

The omentum was nearly gone, and but barely to be distinguished at the left hypochondrium, of a blue colour, covering the intestines. These, from the tumour, were not visible, but at this region, they were closely compacted backwards, and they seemed in some places to communicate with, and to run into the tumour.

Excepting at the upper part, the mesentery seemed to adhere, and to communicate also with the tumour, so that we could not follow out beyond two or three convolutions of the intestines; indeed, they were agglutinated into a mass, and singularly conglomerated.

The stomach, and those few portions of the intestines which did not exhibit so great a degree of disease, were of a blanched appearance.

The liver was smaller than usual, of a pale emaciated aspect, its margin of a blue colour, but it was not hardened, nor was there any unnatural adhesion. Abdominal effusion was very trifling, but there was considerable emphysema.

The symptoms, as noted on the 17th September, indicated an abdominal induration or tumour; and, considering the peculiar diathesis and history of the patient, more particularly such a constitution being affected with scarlatina, grounded my suspicions, which were communicated to Mr Bowes at my first visits with him, that it was a marked case,—the effect of chronic peritonæal and mesenteric inflammation, lately well described and illustrated by Broussais, and noticed by Laennec and others. If we lay no great stress on any material morbid affection to have been *immediately* induced by the blow received at school, but rather consider the excitement by the scarlatina in this constitution, it illustrates, as I conceive, the metastasis of disease, and more particularly to organs that are weak and unhealthy; a doctrine, however it may be doubted by some, and even ridiculed by a few pathologists, is, nevertheless, in several diseases shown to be a truth well established.

Forming, with Broussais and some other physicians, in this case a very unfavourable prognosis, yet, considering the powerful effect of mercury as a discutient, I think that it was justifiable to give the patient a chance of its operation.

But conceiving the embryo of the disease to have had existence before or immediately after the blow was received in school, which is by no means improbable, the case further shows here, indeed, which was scarcely at all observable, and attracted so little notice as to require the after reflections of solicitous and intelligent parents to mention any indication of its probable commencement, until after the excitement from scarlatina, when the sudden and rapid progress which took place, yet so dreadful was the havock which it produced, that we are astonished how the functions of life lasted so long as they did. This leads us almost to regret the absence of the grand monitors of nature in most diseases, pain and the derangement of the intellectual functions. However desirable this always is to the unfortunate patient and the friends, yet this very circumstance tends to lull us into fatal inattention and security, until all our art is likely to be unavailing, consequently, we seldom see the beginnings or first stages of the disease. In this country, our being, until very lately, but rarely permitted to examine the body after death, may account for so little being said satisfactorily by those of our great masters, to whom we look up for information on this and some other diseases, but which have of late attracted the notice of some of the profession of the present day. This requires that we should more particularly be on the alert in inquiring after and observing narrowly every circumstance, and be careful in recording them, and may justify the observations made from only one or a few isolated cases, even though these be imperfect.

Dunfermline, May, 1821.

XII.

On the Purulent Discharge of the Tympanum of the Ear. By Joseph Swan, Esq., Lincoln.

Doubts have long existed in the minds of many men of the highest eminence in the profession, about the proper method of treating the diseases of the ear, attended by a purulent discharge. So different, indeed, have been the sentiments of different men on this subject, that whilst some have been entirely averse to attempts to put a stop to the discharge, this practice has been considered by others as perfectly erroneous.

Mr Saunders, to whom the world is much indebted for his researches into the nature and treatment of diseases of the ear, has not objected to putting a stop to the discharge in any case; and his plan is acted upon, at the present time, with the greatest advantage in general to those who are affected with this complaint; but, as cases now and then occur where the stoppage of the discharge, or even the attempt to stop it, is attended with dangerous, and even fatal consequences, I thought it might not be amiss to endeavour to point out the cases where experience shows there is ground for such apprehension.

The case I am about to relate is by no means uncommon; but I bring it forward, because, where similar ones have ended fatally, so little notice has hitherto been taken of them, with a view to point out the best method of treatment.

Mr S., about 50 æt. had an inflammation of the tympanum, which terminated in suppuration, when the abscess broke, and relieved him. He afterwards complained much of his head, and had a disordered state of the stomach. He had blisters applied for the relief of his head, and took occasional doses of blue pill, and some other medicines. As he continued in a bad state of health, he went into the country for change of air, where, as the discharge of the ear continued, he was recommended to use an astringent injection as the means of putting a stop to it. After a few weeks he returned home much benefited by his journey. Though he still complained of his head, yet, as he had used the injection without any apparent injury, I did not object to his persevering in the use of it.

On the evening of the 8th of October, which was a day or two after I saw him on his return home, he sent for me, and I found him complaining of great dizziness, with some pain and confusion of the head. As he had eaten a hearty dinner, I conceived that the symptoms might proceed from the stomach. I therefore prescribed for him four grains of submuriate of mercury, and some purging medicines, desiring at the same time that the injection might be entirely discontinued. The next morning, as I found him no better, and though the pulse was hardly affected, yet, as I suspected that the irritation from the ear had extended to the membranes of the brain, and thought that inflammation of them might possibly be impending, I took some blood from the arm, which relieved him very much. I ordered a blister to be applied to the back of the neck, and the following draught and bolus to be taken every four hours.

℞ Sulph. magnes. ʒiss. syrupi. ʒi. aq. puræ ʒxi. M. f. haust.

℞ Pulv. antimon. gr. iv. submur. hyd. gr. i. cons. ros. can. q. s. f. bolus.

The blood was inflamed, and had the buffy coat.

On the 10th some leeches were applied to the temples, and, though he seemed better, yet, as I was very apprehensive about the termination of his complaint, I requested that my friend Dr Cookson might see him; and his opinion as to the nature of the complaint entirely coincided with my own. The same medicines were given for some time, and afterwards some gentle tonics. He was kept perfectly still, and a strict antiphlogistic regimen was enjoined. For some time, walking, or the least motion of the head, appeared to affect the brain, producing the dizziness, and most uneasy sensations in the head.

The discharge during all this time continued, but, by great care, after some months, it abated of itself; and, though it was a long time before the head felt entirely as it ought to do, yet the unpleasant sensations gradually wore away; and, though the hearing of the affected ear is still very far from being perfect, yet it is much better than could reasonably have been expected.

In this case the discharge of matter was very great; and if the osseous parietes of the tympanum had not ulcerated through so as to expose the dura mater, that membrane was very much irritated, and from some cause, whether from the injection or not I cannot say, the irritation was very much increased, and communicated to the brain.

Whenever a purulent discharge from the ear is attended with much complaint of the head, suspicions ought always to be entertained that the dura mater is irritated in consequence; and on any increase of the affection of the head, effectual measures should be taken to arrest the progress of the mischief by bleeding, and a strict antiphlogistic regimen. In such cases we ought not to wait until there are decided symptoms of inflammation of the brain or its membranes, because then, as cases on record show, suppuration extending some way on the base of the organ can hardly ever be prevented; but the remedies I have mentioned ought to be used immediately on the increase of pain in the head and ear.

To those who have not much considered the case, these symptoms may not seem to require such active treatment; but if both the patient and practitioner's fears are suffered to be lulled into security for many hours after their approach by palliatives, the disease will have made such progress as probably to resist the employment of every thing that can be done. I consider, therefore, that when there is a discharge from the ear, and the head is complained of, all that ought to be done is an attention to the general health, and an attempt by counter-irri-

tation, as blisters behind the ears or on the back of the neck, to remove the disease from the ear. The meatus ought not to be stopped up with cotton or any other substance to prevent the free escape of the matter, as I am convinced, that when the discharge is great, such a practice is very wrong, and probably not only adds to the irritation by its confinement, but may lead nature to attempt some other outlet, and thus cause an absorption of the bone, and consequent exposure of the dura mater. And, upon the whole, I think that on no account, in the case where the discharge is accompanied by pain in the head, ought astringent injections to be used to put a stop to the discharge, as, when it has been stopped by a perseverance in this mode of treatment, the brain has always appeared to suffer, and the consequences have been fatal.

Lincoln, May 6, 1820.

XIII.

A Case of Delirium Tremens, followed by Hemiplegia. By David Nicol, Member of the Royal College of Surgeons, London.

Should you deem the following case sufficiently interesting to merit a page or two of the Medical and Surgical Journal, I beg leave to present it to you, simply transcribed from the case-book. By adding to the number of facts already collected, it may, perhaps, in some measure, contribute to illustrate the pathology of a disease comparatively but little known.

William Barwood, ætatis 39, a seaman on board one of the East India Company's China ships, a large athletic man, but (as we frequently remark in the appearance of sailors) who bore the marks of premature age and impaired constitution, was attacked with acute hepatitis five months previous to the affection about to be described. It readily yielded to the influence of venesection, purgatives, blistering, and the administration of calomel, carried to the induction of ptyalism. He continued well until November 17th, 1819, at which time the ship lay moored in the river of Canton, in China. On that day he was observed sitting between decks in what was at first conceived to be a state of intoxication, with slabbering of saliva,

wildness of countenance, indistinct articulation, difficult deglutition, tremulous motion of the hands, and subsultus tendinum. Made no complaint of pain. On examining his mouth the gums appeared swollen and ulcerated; tongue white and moist; pulse natural; skin cool. Said he had passed two natural stools during the day, denied drinking, and could attribute his salivation to nothing he had taken. He dozed throughout the night, and next morning complained of some pain in the right side, but there was no tenderness on pressure. His pupils were dilated, and but little sensible to the impression of light. Salivation continued, with no peculiar fetor of the breath. He lay in a state of stupor, and on being roused seemed at first to have lost his recollection, with deep sighs and gaping, but gave coherent answers when questioned.

Appl. emp. vesicat. lateri dextro.

19th.—About 11 o'clock last night he began to recover from his stupor, and complained of pain and soreness across the supercilia, and in the globe of the eyes.

Adhibeatur emp. vesicator nuchæ.

Sumat statim P. jalapæ comp. ℈ii.

The blisters have risen well; no complaint of head or side; bowels moved freely, and stools of natural appearance; excessive salivation; gums much ulcerated; pulse weak and under the natural standard; tremors of the extremities, subsultus tendinum, and imperfect articulation continue.

Bibat. vini rubri cyathum bis terve in die.

21st.—Slept none last night; tremors as before; tongue white and furred; pulse and skin perfectly natural, except that the former is somewhat weaker than in health; pupils more sensible on the approach of light; salivation still severe; deglutition easy; he seems perfectly collected, and confesses having drank about half an English pint of samsoo * on the night of the 16th.

Cont. vinum ter quaterve die.

22d.—Slept tolerably well; the tremors have nearly ceased;

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* A deleterious spirituous liquor, prepared by the Chinese, made use of by the lower orders, and by them retailed to the seamen of European ships. Dr Johnson quotes the following as the ordinary mode of preparing samsoo. "The rice is kept in hot water till the grains are swollen, it is then mixed up with water, in which has been dissolved a preparation called "Peka," consisting of rice-flour, liquorice-root, anniseed, and garlic. This hastens fermentation, and imparts to the liquor a peculiar flavour." He adds, with great appearance of truth, "It is probable, however, that other more active ingredients are added to that in use among the lower classes at Canton."—Influence of Tropical Climates, &c. p. 85.

articulation more distinct; the saliva continued to flow, but his mouth is healing; belly regular.

23d.—Is recovering slowly; appetite tolerably good; salivation continues.

From this time he improved progressively, and on the 1st of December returned to easy duty. He still retained some impediment of speech and peculiarity of manner.

He was again admitted into the sick-list, December 21st. Since his last illness, (apparently the consequence of drinking samsoo,) his articulation has been in some degree imperfect, embarrassed, and at times almost unintelligible; his conversation and actions sometimes inconsistent, but his appetite and general appearance good.

I find that since his return to duty, he has been reserved; frequently inclined to sleep; his messmates have lately observed irregular motions of his limbs, and slight tremors. Since Friday last (17th) these latter symptoms have become most conspicuous. He has now universal trembling; constant motion of the hands, perpetually conveying them to different parts of his body, sometimes with a convulsive quickness and irregularity. His answers are confused and contradictory, and he seems disposed to conceal his ailments. For some time past (as his messmates say) he has also laboured under complete incontinence of urine, but he says that he is only unable to restrain a frequent desire to void it; however, his clothes and bedding are constantly wet. His bowels are at present rather loose; pulse 70, soft and languid; tongue clean; complains of pains in the knee and hip-joints, chiefly in the night; denies any other ailment.

Appl. emplast. vesicat. sacro.

Capiat nocte opii gr. 1. formâ pil.

22d.—Has passed a good night; says he has less difficulty in retaining his urine; otherwise as yesterday.

Rep. opium hora somni.

23d.—As yesterday; belly costive.

℞. P. jalapæ gr. x. Hydrarg. submur. gr. iii. M. ft. pulv. stat. sumendus.

Sumat. opii gr. ss. quater in die.

Bibat vini rubri ℥iv. quotidie.

24th.—Rested well; less tremor; had one stool from the purgative.

Cont. vin. et opium.

27th.—Tremors subsiding; in other respects as at last report.

Cont. medicamenta.

30th.—Discovered in him an inability to use the right arm

and leg with freedom; says they are both benumbed; the hand is with difficulty raised to the head, and he complains of pain in the arm, about the insertion of the deltoid muscle; twitchings and convulsive motions of the neck and arm on the opposite side; gives contradictory answers, and is incapable of telling what he has been doing the last hour; appetite impaired; pulse feeble; countenance languid.

Abradatur latus capitis sinistrum, et adhibeatur emplast. vesicat. magnum.

Contin. alia medicamenta.

31st.—Blister risen; he seems to have gained more power in the use of his arm, &c.; urine dribbles from him, and evacuations per anum pass off involuntarily. The convulsive motions are less frequent, and his countenance seems somewhat improved. Otherwise as yesterday.

Fricetur spina dorsi linimento stimulant.

January 1st.—Less confused in his conversation; the use of the right arm and leg more free; has passed no feces during the night.

℞ Carb. ammoniæ gr. vj.

Pulv. cinchonæ ℈j. M. ft. pulv. ter indies sumendus.

Cont. vesic. Fiat perpetuum vesicatorium.

2d.—Is in a feeble state; careless of any kind of exertion; never asks for food or drink, but takes small quantities of either when offered. The use of the arm and leg continues more under the influence of the will; makes no complaint of pain; pulse small and feeble. Bowels have not been moved the last 24 hours.

Habeat statim pulv. rhæi ℈i.

Cont. alia ut antea.

3d.—Three or four stools passed involuntarily. His general appearance is better, and he has ate a moderately good breakfast this morning.

4th.—Is more collected; gives more direct answers, and remembers what has occurred during the last day. One stool has been passed at will. His appetite is improving, and he is in good spirits.

Cont. medicamenta.

6th.—Has now sufficient power over the right arm to make a firm grasp with the hand, bring the arm over the head, or convey food, &c. to the mouth. The opposite hand is perpetually in motion, when in the erect position, but quiet when supported, or when at rest in his hammock. The alternate progression of the right leg much improved; articulation and

deglutition more easy and perfect; less tremor; appetite good; bowels costive.

Medicamenta ut antea. Habeat ext. colocynthidis c. q. s. pro re nata.

7th.—His bowels have not been moved by the colocynth.

Capiat P. rhæi ʒss.

8th.—Bowels freely evacuated. Continues to improve.

14th.—Has nearly regained the perfect use of his right side; and has more command over the rectum. Conversation much improved; and he gives sufficient and direct answers to questions relative to his feelings, &c. Appetite tolerably good. Blister healed.

22d.—He still performs the motions of the right side with some difficulty; his answers are pertinent; and his memory more retentive; but he has no command over his evacuations. A seton was inserted over the lumbar vertebræ yesterday.

Applicetur vesicatorium capiti u. a.

Cont. pulveres.

February 4th.—Seton discharges. Has no command over the sphincter vesicæ, but can retain his feces, except after the administration of a purgative. When spoken to, he assumes an insignificant smile; and is pleased with trifles.

Cont. remedia.

To have a bottle of ale daily.

15th.—Seton discharges profusely. Is now quite collected; converses rationally; and has great power over his right side. Is provided with some easy sitting employment, for two or three hours in the forenoon.

24th.—He has now a perfect use of the right side; but on an attempt to raise weights, he feels much weakness in the arm, about the insertion of the deltoid. Conversation rational; deglutition and articulation natural; sphincter ani under the influence of the will; and that of the bladder during the day; but finds himself wetted in the night.

The seton to be removed, and ordered to take a glass of port wine about mid-day; to use the shower bath every other or third morning; and employed in light work during the day.

Every symptom now gradually subsided, and on the 1st of April he was enabled to resume his original duties.

Remarks.—Considering the nature of the liquor presumed to have been drank, and the facility with which the seamen procured it, notwithstanding the strictest prohibition and precaution on the part of the officers, I think the train of morbid symptoms that followed, may be readily admitted as the effect of the samsoo.

As I did not see the patient until several hours had elapsed from the commencement of the disease, I am unable to say whether the symptoms then present were consequent to any, or a high state of excitement: However, the existing appearances seemed to indicate considerable nervous exhaustion, with consequent partial congestions in the brain and liver. These last were apparently removed by blistering; the bowels were opened, and diffusive stimulus (wine) administered; under which he seemed to improve rapidly. The tremor subsided; sleep returned; he regained the power of swallowing, and more perfect utterance, and became calm and collected.

The most prominent peculiarity attending this affection was the immoderate flow of saliva, with ulceration of the lining membrane of the mouth.

I had an opportunity of witnessing the termination of another case, supposed to have originated in the same cause. The patient (as I was told by the medical gentleman who had the care of him) was taken ill on Tuesday October 19th. He was unable to stand; indifferent to surrounding objects; and to all appearance drunk. No great excitement was evident from the beginning; and he had since continued to sink rapidly. On Friday, when I saw him, he lay in a comatose state, with his mouth open; eyes closed; pulse 120 and feeble; skin of natural temperature; he had then no tremor. Was with difficulty roused, and then appeared to understand questions; but having lost the power of articulating words, he answered by feeble mutterings and signs. Mouth and tongue clammy; teeth covered with black sordes; stools clay-coloured. When raised in bed he swallowed with apparent ease. Showed no symptom of pain. He expired next morning.

XIV.

Case of Encysted Hydatids, occurring in the Muscular Structure. By John Baird, Esq. one of the Surgeons to the Newcastle Infirmary.

I am induced to publish the following case of Hydatids, because I think it valuable, on account of its contributing something to our pathological knowledge.

The case is not only interesting from its singularity, but also in affording so perfect a specimen of this peculiar morbid formation occurring amongst the muscles of the body. Every person who has paid any attention to morbid anatomy, must have frequently found hydatids in the secreting structures of the system, but I do not recollect to have seen recorded anything like a perfect encysted case of the disease met with in the condensed cellular structure, forming the connecting medium of muscles.

Sarah Chapman, aged 29 years, of a leuco-phlegmatic habit, applied to me for surgical advice on the 18th of January 1821, respecting a tumour situated at the posterior part of the thigh. This tumour was of an oblong form, and extended from the insertion of the glutei muscles nearly into the ham, and apparently running in an exact line above the linea aspera of the femur. She has been conscious of the presence of this disease about six years.

I considered the tumour to contain fluid, as I was sensible of its fluctuating upon pressure, although very indistinctly. I therefore determined to withdraw the fluid with a trocar, and attempt obliteration of the cavity of the cyst by means of a stimulant injection.

On the 23d of January, I introduced the trocar into the substance of the tumour, but was surprised to find that no fluid flowed through the canula. I then supposed I had been deceived in my examination, and that the morbid growth was of an adipose nature. I immediately proceeded to extirpate the tumour, making a long incision over the centre of it. Having divided the fascia of the thigh, and exposed the surface of the tumour, lying between the biceps flexor cruris and the muscles which form the inner ham-string, it seemed to dip below the belly of the biceps. The glistening appearance of the surface of the tumour was so different from the condensed covering of adipose substance, that I was in doubt how to proceed with the dissection, particularly as the disease lay so deep. I therefore passed the point of the scalpel into the tumour, to ascertain its nature, and was surprised by the evolution of an immense number of hydatids. Many of them burst in passing out of the cyst, but nearly a hundred were brought away perfect, about the size, and possessing the peculiar transparency of grapes.

Having emptied the sac, I began to dissect it from its deeper attachments. In doing this, I was obliged to divide a great number of muscular fibres, as it was so closely connected with the substance of the muscles. In performing this dissection, a very large branch of the profunda was divided, which bled furi-

ously, and lying deep, was not easily secured. Wherefore, as the upper part of the sac extended beyond this, and dipped below the insertion of the glutei muscles, I thought it prudent to proceed no farther, and left a small portion of the upper part of the cyst adhering.

The sac was exceedingly thick, and the inner surface displayed a rugose appearance, covered with a greyish secretion, resembling very nearly the villous coat of the stomach.

The parts were brought into contact by adhesive straps, and an anodyne was given to her when she was placed in bed.

25th.—She has suffered extreme pain since the operation; her pulse is very frequent; and she labours under great nervous irritation of the system. She vomited occasionally yesterday, and thirst has been very distressing to her. I applied an emollient poultice to the thigh yesterday afternoon, to allay the irritation of the divided part, and gave her some calomel and opium, followed by a saline purgative.

These medicines operated freely, and she is much better in every respect this morning. She expresses a desire for a mutton chop, which I have allowed her. The cavity of the wound is filled with coagulum, and has a sloughy appearance. The poultice to be continued until the wound assumes a clean appearance; and she is ordered to take the saline julep freely, together with an anodyne, as long as it may be necessary.

30th.—Excepting some little nervous irritation, producing headache and occasional nausea, she has continued tolerably well. The wound has become quite clean, and the colour and consistence of the purulent discharge is improving. I have discontinued the use of the poultice, and approximated the granulating surfaces by means of adhesive straps.

February 7th.—The granulations had contracted so much, as to bring the lips of the wound almost closely in contact. She has, however, been attacked with inflammation of the throat, and symptoms of fever, which have interrupted the healthy action of the wound, and in consequence the newly-formed parts have given way, and the granulating surface looks glassy and inactive.

February 14th.—After the disordered state of the system was subdued, the healing process went on with increased activity, and she is now quite well.

Newcastle, February 20, 1821.

XV.

Case of Injury of the Spinal Marrow. By THOMAS ARTHURE, M. D. Licentiate of the Royal College of Surgeons, Edinburgh, Honorary Member of the Royal Physical Society, and Physician to the Rathdown Dispensary and Fever-Hospital, County of Dublin.

THE valuable paper inserted in the Edinburgh Medical and Surgical Journal for January 1818, on diseases of the spinal marrow, by Dr Abercrombie, having strongly attracted my attention, I beg leave to send you the following case on that subject for publication, if you should deem it worthy of a place in that valuable periodical work.

A lady, aged 52 years, of active habits, on the 1st of December 1818, having, by accident, fallen off a chair she was sitting on, received a contusion upon the os coccygis. The pain which it occasioned subsided in a short time, and, by means of rest and quietness, had totally gone off in a few days afterwards.

On the 20th of the same month, whilst sitting at needle-work, she suddenly cried out, in the presence of her children, that she was losing her senses,—had got a most excruciating pain in the forehead and temples,—and feared that it would terminate in apoplexy. She desired that an apothecary should be sent for to bleed her, and one was instantly procured, who executed her command.

The anxiety of her family and friends, however, who considered her as dying, induced them to despatch a messenger for my advice and attendance.

On my arrival, which was immediate, I found her in a very alarming and exhausted state. Eight ounces of blood had been previously obtained by venesection. Pulse scarcely perceptible; extremities cold; complexion sallow, with a degree of collapsed appearance, and a constant vomiting.

By means of bathing her feet in warm water, and the application of bottles filled with hot water to them, their natural temperature had been restored, and the pulse, by degrees, was improving in strength, though very irregular and intermitting. The vomiting still continued, and the pain of the head, notwithstanding the use of twenty leeches, was in no way mitigated.

The case remaining very urgent, it was thought prudent to call in the aid of Dr Philip Crampton, (surgeon-general,) resident in Dublin.

On his arrival, and upon mature deliberation, we ascribed her disorder to the fall she had previously met with, and the present symptoms to an affection of the brain, arising from its sympathy and connection with the spinal marrow. We also considered the case as one of rare occurrence, and attended with imminent danger. In addition to the foregoing treatment, blisters were applied to the calves of the legs, a sinapism to the nape of the neck, and a stimulating cathartic enema was ordered to be as quickly as possible administered.

Dec. 21st.—The enema having failed of its due effect, a smart purgative was given, which fortunately lay on the stomach, and caused several evacuations, which gave great relief. Upon the suggestion of Dr Crampton quantities of ice enveloped in napkins were ordered to be constantly applied over the forehead and temples.

The anxiety of her friends being still very great, Dr Perceval, an eminent physician of Dublin, was requested to see her, who immediately complied with the request, but no material alteration of the plan of treatment was judged necessary.

By the application of the ice-cloths, and daily administration of purgatives, she evidently derived great advantage, and was nearly convalescent, when, about midnight, on the 4th of January 1819, I received a sudden and unexpected summons to visit her, and on my arrival found her complaining of excruciating pain of the head, with profuse perspiration trickling down her face, along with irritating sensations about the os coccygis, bearing down pains in the uterine region, and spasms of the calves of the legs. She also felt a sensation indescribable, but of a painful nature, ascending along the dorsal vertebræ, and terminating about the foramen magnum of the occipital bone.

Viewing those symptoms as the effect of irritation from the injury the spinal marrow had received, and considering the urgency and suddenness of the attack, and the lateness of the hour, which rendered a consultation with Dr Crampton inconvenient, if not impossible, I prescribed an antispasmodic and anodyne draught to be instantly taken, and repeated before morning if necessary. On my visit the following day I was much rejoiced to hear that a short time after taking the first draught she fell into a profound sleep, and was now perfectly free of pain. I, therefore, continued the same practice for two or three days afterwards, with very good effect, attending at the same time to the state of the bowels; after which, the pain having returned in some degree, I seized that favourable op-

portunity of requesting another consultation with Dr Crampton.

When we met it was agreed that the same antispasmodic and anodyne plan should be persevered in, with due regard to the state of the bowels, and that a stimulating blister should be applied to the os sacrum.

The lady having been teased sufficiently (to use her own expression) with blisters, would not consent to such an application, but insisted to have leeches used in its stead. They were applied, and were followed with some degree of nervous debility. In this state I was again sent for, and found her pulse again intermitting. I prescribed an anodyne and antispasmodic mixture of increased strength, and found her the following morning much refreshed after a sound sleep, much stronger and with no intermitting pulse.

Feeling very forcibly the value of Dr Crampton's suggestion of a stimulating blister, I at length prevailed on my patient to admit the application of a stimulating adhesive plaster, composed of diachylon plaster, Burgundy pitch, with a large proportion of opium, and a small quantity of mercurial ointment, with camphor, the whole being thinly sprinkled with powdered cantharides, but not in so large a proportion as to cause vesications.

She made use of this plaster spread on leather for three months afterwards, with a sensation of much comfort, and I would say also, not without benefit.

Having had occasion, from this period, to pay her visits but occasionally, I have only further to add, that she daily improved in health and strength, and though a long time elapsed before she could make use of her legs in the exertion of going up or down stairs, or bear the exercise of a carriage, she at length overcame these difficulties, and now enjoys as perfect a state of health and cheerful spirits as she had ever before possessed.

I have now stated the simple facts as they appeared to me during an attentive observation to every symptom, change, and peculiarity of the disease, and have submitted them, and the mode of treatment pursued, to public notice, feeling it to be the duty of every practitioner so to do in all cases of consequence. And I am also desirous of calling the attention of the profession to that important object of research, the morbid anatomy of the spinal cord and the diseases to which it is liable. It is by prosecuting this interesting subject carefully and philosophically, and by publishing the aggregated cases and observations of the profession, that the pathology of several diseases, hitherto involved in the greatest obscurity, will be rendered less difficult,

and that we can hope to arrive at any satisfactory conclusions of the comparative advantages likely to result from any of the different modes of treatment recommended. To Dr Abercrombie, therefore, the merit is justly due, of having roused the attention of the profession to the diseases of the spinal marrow,—of having opened a field of new and interesting observation and inquiry—and of having imbodied our looser knowledge of them into a simple and compact form, the whole being enriched by his own observations.

Monckstown, County of Dublin,
December 17th, 1820.

PART II.

CRITICAL ANALYSIS.

I.

A Dissertation on the Treatment of Morbid Local Affections of Nerves: to which the Jacksonian Prize was adjudged by the Royal College of Surgeons. By Joseph Swan, Member of the Royal College of Surgeons, and Surgeon to the Lincoln County Hospital. 8vo, London, 1820. pp. 196.

There is, perhaps, no order of maladies about which more has been said and written, than those to which the name of Nervous has been given; but it is nevertheless remarkable, that the degree of precise information and elucidation has by no means corresponded with the number and consequence of the contributions which have been made with this view. These diseases appear, in short, to have formed a legitimate inheritance to the greater portion of the mysticism and obscurity which has at different periods prevailed in medical science; and an affection of the nervous system has been at all times a convenient and useful mode of explaining any symptom which perplexed the ignorant, or dazzled the indolent practitioner of the healing art. To many pathologists the nerves are the most indispensable organs in every condition, whether healthy or morbid, in which the body may be placed; and it is truly astonishing to see with what facility they are made to account for all the changes which are observed in the course of diseases. To such observers nothing is a secret, and nothing however obscure is left unexplained; the whole phenomena of the nervous syt-

tem, as it is emphatically named, are perceived as palpably and distinctly, as if the objects of examination were seen through diaphanous media, or exposed at the moment to sensible inspection. To some these strictures may appear unwarranted; but we deem it pretty certain, that all who have glanced, even with a moderate portion of attention, at the history of medical theory and pathological speculation, from the days of Dr Willis, who first unlocked this treasury to the profession, down to the present hour, when spasm, nervous irritation, excitement, and collapse, are still familiar to the lips and ears of many, will admit, that there is but too much reason for expressing ourselves as we do. The vague and unsatisfactory opinions which are daily avowed and acted upon in this department of pathographical science seem to be unceasing and innumerable, and to all who have a taste for precise and accurate conceptions of the objects which they actually know, it must be equally painful and discouraging to contemplate this endless revolution, in which no progressive advancement is made, and the variety consists only in the difference of names.

It was, therefore, with considerable present satisfaction, and great anticipation of future accessions, that we turned to the work of Mr Swan, who has been devoting his attention, with some success, to the elucidation of one department of the subject; and though we by no means wish Mr S. to believe that his book is as well executed as we think his talents and opportunities enable him, yet, as a beginning to a great work, to the accomplishment and completion of which many different hands must unite their efforts, we think that it is very creditable to the author, and may exercise a beneficial influence on professional inquiries. The professed object of Mr Swan's work is the treatment of morbid local affections of the nerves; and it would be therefore unjust to blame him for omitting to speak of the healthy organization of these textures, as well as the morbid changes which it is the province of the pathologist to investigate and describe. As this, however, is in some degree necessary, in order to understand these changes and the mode in which they are effected, and, as it may be presumed, that all our readers have not leisure to collect, from the different works in which they are scattered, the details which the recent labours of pathological anatomists have added to our stock, we shall deem no other apology requisite for detaining them very shortly, while we state, in the most precise manner, what is known positively regarding the organization and pathology of that part of the nervous system, the diseases of which have been the subject of Mr S.'s investigation, while we, at the same time, give a more

detailed account, and express a more particular opinion of the labours and merits of the author.

The nervous system of the animal body includes, according to the present state of pathological opinion, two great general divisions. The first of these is collected in a single and indivisible mass, and contained in a peculiar cavity formed by part of the osseous system of the animal. In the less perfect tribes this is limited to the vertebral column, or something analogous to it; but in man, and the more perfect animals, we find a large cavity at the superior extremity of this column superadded. The second division of the nervous system, with which alone we are at present concerned, is found in the form of long chords or threads, mutually connected, and running in various directions through the body in the mode of ramification. To these the name of nerves or nervous trunks has been long applied. Each nerve forms connections in three different ways: 1*st*, A nerve must be connected to some part of the central mass by one of its extremities; 2*d*, It must be connected to some other texture or organ, or part of an organ, by the other extremity; and, 3*d*, It may be connected to other nerves by a species of anastomosis. By means of the two former connections it is supposed to maintain a communication between the central mass and the remoter organs, and by the latter it is understood to be subservient to a more general and extensive intercourse, which is believed to be necessary in various functions and actions of the animal system. Every nerve consists essentially of two parts,—one exterior, protecting and containing; the other interior, contained and functional, that is, the indispensable part of the nervous structure. The first of these, which has been known since the time at least of Reil by the name of *neurilema*, (νευρον et ἑιλεω, *nervi involucrum*,) has the form and nature of a dense membrane, not quite transparent, which is found at the exterior of the nervous filament or trunk, and invests the proper nervous substance. It must not, however, be conceived, that the neurilema has the form of a cylindrical tube, in the interior of which the nervous matter is contained. This latter disposition, if it actually exist, applies only to the smaller nerves, and to some of those which go to the organs of sensation,—a difference which we may have occasion to notice subsequently. If, in truth, we take any large nervous trunk, for example, the spiral or median nerve of the arm, or the sciatic nerve of the thigh, we find that it is composed of several small nervous chords placed in juxtaposition, and each of which, consisting of its appropriate neurilema and nervous substance, is connected to the other by delicate cellular membrane. These,

however, do not, through their entire course, maintain the parallel disposition in respect to each other, but are found often to cross and penetrate each other, so as to form an intimate interlacement of nervous chords and filaments, each of which, however minute, is again accompanied with its investing neurilema. As this membrane must, therefore, be liable, from its various situation, to great modification, it is easy to see that all opinions on its nature derived from its thickness or transparency must be liable to considerable fallacy. Reil and Bichât, who have devoted more care and time to the examination of its nature and structure than any other inquirers, thought it resembled the pia mater, and was indeed derived from it. Scarpa, on the other hand, seems to view it as connected in anatomical origin and character with the dura mater. But we believe it is safer, in the present state of our information, to consider it as a particular texture, and undergoing modifications peculiar to itself. It is surely unnecessary to expect every one membrane to be derived from some other, the origin of which is left unexplained; and it is obvious that the supposition of deriving it either from the pia or the dura mater could not, though admitted, explain either its functions or its structure. That it is connected, as Bichât thinks he has demonstrated, with the pia mater, or rather with the ligamentum denticulatum, we are not unwilling to believe, although we could never certainly satisfy ourselves that this is so easily seen as he seems to make it.

Although the neurilema when examined in the nervous chords, taken in general through the system, exhibit the arrangement which we have now described, yet this is observed to vary somewhat in particular situations; and these varieties in the neurilematic disposition occur principally in the nerves which are distributed on the proper organs of sensation. The olfactory nerve, for example, is soft, pulpy, and destitute of neurilema, from its origin in the sylvian fossa to the grey bulbous enlargement which terminates its passage in the cranium; but as soon as it reaches the *canaliculi* of the ethmoid bone, and begins to be distributed through the nasal anfractuosities, it is distinctly neurilematic. The optic nerve is still more peculiar in this respect. The instant it quits the optic commissure it begins to be invested with a firm general neurilema, which sends into the interior substance of the nerve various membranous septa, forming separate canals, in which the nervous matter is contained. These septa, however, are so thin, that at first sight the optic nerve seems to consist merely of one exterior membranous cylinder enclosing the proper nervous substance. Lastly, we may remark, that the auditory nerve, or the

soft portion of the seventh pair of most anatomical writers, is the only nerve in which this covering cannot be traced.

The second component part of the nervous chord or filament is the proper nervous matter which occupies the cavity of the neurilematic canals. Exceedingly little is known concerning the nature or organization of this substance. It is whitish, somewhat soft and pulpy, but whether it consist of aggregated globules, or of linear tracts disposed in a situation parallel to each other, seems quite uncertain. It has been presumed, rather than demonstrated, that it resembles cerebral substance; but this analogy, though admitted, would throw little light on the subject; for at present it is almost impossible to find two anatomical observers who have the same views of the intimate nature of the cerebral substance itself.

The structure which we have now described of the nervous trunk may be easily demonstrated to the satisfaction of even a very sceptical observer. When a portion of nerve is placed in an alkaline solution, the whole, or nearly the whole, of the nervous matter is softened and dissolved, or may be washed out of the neurilematic canals which are not affected by this agent, and the disposition of which may be then examined and demonstrated. Aqueous maceration may likewise be employed with great advantage to elucidate this texture; for it separates and decomposes the cellular membrane, by which the neurilematic canals are united, and subsequently occasions the decomposition of the nervous substance, while it leaves, at least for some time, the neurilema not much affected. When, however, the maceration is too long continued, it is separated and detached like other macerated textures. Lastly, if a large nerve be placed in a diluted acid for the space of one or two weeks, the neurilema is gradually dissolved, and the nervous matter becomes so much indurated and consolidated that it may be separated from the contiguous chords with great facility. In undergoing this change the portion of nerve becomes much shorter, and considerably contracted,—is subjected, in truth, to the process of crispation; so that, unless a large nerve like the sciatic be employed for the experiment, it may be impossible to obtain the result in its most satisfactory form. These experiments, with many others of the same nature, were first performed by Professor Reil, and afterwards repeated, multiplied, and considerably varied by Bichât. We have subsequently had occasion both to see them performed by a late eminent anatomist of this city, and to repeat them in person, and when the proper precautions were taken, we can assert, that they never failed to give the results as described by these distinguished authors.

The nervous texture, like all others, receives a proportion of what may be denominated the systems of distribution. We find in nerves, for example, cellular membrane and blood-vessels. In the substance of the former, the disposition of which we have already remarked, we find the more conspicuous branches of the latter distributed; in a more minute and divided state they penetrate the neurilema, and the substance of the nerve. Reil, who derived his conclusions from the result of delicate and successful injections, greatly exaggerated the quantity of blood which they convey; for it is quite certain, that in the healthy state, hardly any red blood enters the nervous texture, as may be easily shown by exposing the sciatic nerve of a dog or rabbit.

Such is the structure of the nervous chord taken in its course in general; but in particular situations this structure may be considerably modified. The modifications to which we allude occur under two forms,—ganglions and plexus. We can spare leisure to notice only the structure of the former. Every ganglion consists essentially of three parts; 1st, an exterior covering; 2d, a collection of minute nervous filaments; and 3d, a quantity of peculiar cellular texture, by which these filaments are connected, and which constitutes the great mass of the ganglion. The ganglions are of two kinds, the spinal or simple, and the non-spinal or compound. These two kinds of bodies differ from each other, 1st, in the situation which they respectively occupy; 2d, in the kind of envelope with which they are invested; 3d, in the mode in which the nervous filaments pass through them and from them. The spinal ganglions are said to possess two coverings, one of which resembles the dura mater, the other the pia mater; the non-spinal or compound ones have likewise two coverings which are merely different modifications of cellular membrane. Both these sets of ganglions being, by maceration, stripped of their tunics, and deprived of the soft pulpy cellular matter, are resolved into an innumerable series of nervous threads, most of which are minute and scarcely perceptible, all continuous with the nerves above and below the ganglion. It would appear that the nervous chord, when it enters the one apex of the ganglion, begins to be separated into its component threads, which diverge and allow the delicate cellular tissue to be interposed between them; that these filaments are subsequently collected at the opposite extremity of the ganglion, and thus connected with the other nerve or nerves. Scarpa, to whom we are indebted for most of the knowledge we have of this subject, compares the arrangement to a rope, the component cords of which are untwisted

and teased out at a certain part. Lastly, in the simply ganglions, the filaments of which they consist invariably follow the axis of the ganglion, but in the compound ones they are found to run towards the sides and emerge from them; and upon this variety in the direction and course of these filaments depends the variety of figure for which the two orders of ganglions are remarkable. We have endeavoured to state these points as briefly and perspicuously as our limits permit; but it is surely not difficult, after such an exposition, to discover the error of Bichât's notions on the structure and uses of these bodies. In the *first* place, This author's idea that the ganglions were so many nervous centres or minute brains, is not borne out by strict anatomical observation. *Secondly*, That they are connected with the order of involuntary actions, and influence these actions, is a gratuitous hypothesis, and may be true or false without being necessarily the case. *Lastly*, We would remark, as a circumstance of some importance, that the only difference between a ganglion and any other part of a nervous chord is, that in the former the minute nervous filaments appear to be uncovered with neurilema, and lodged in a mass of cellular membrane, which is then enclosed in the neurilematic capsule, while in the latter, each nervous filament has its appropriate neurilema, and the cellular texture, instead of being within, is on its exterior, and connects it to the others. Of the uses of the ganglions, we venture not to offer a conjecture, but must hasten to more assured and unequivocal matter.

Organized in the manner which we have now attempted to sketch, the nervous trunks are distributed in every direction through the animal body, but are observed to be finally lost in the substance only of certain organs, viz. those of sensation, of motion, voluntary and involuntary, and of glandular secretion. We are not unaware that these assertions will be considered a schism from the true anatomical faith which has been long taught by the lovers of nervous sympathies, influence, and excitement; but no fear of this kind will deter us from exposing the fictions of imagination, and adhering with unshaken fidelity to the truth of nature. Although it can never be doubted that anatomy is a science of pure observation, and must admit nothing which is not founded on this evidence, yet the nervous pathologists have, in defiance of this very obvious principle, long admitted the existence of nerves where they could not be seen or demonstrated by any contrivance whatever. The paralogism by which they satisfied their conscience, though not judicious, was at least appropriate and amusing. *First*, It was said, with a singular disregard for logical accuracy, you cannot deny the exist-

ence of nerves in a tooth, a tendon, or a bone, merely because you do not see them; you must reason from *analogy*, and infer that, as they are found in all the textures, so these cannot be destitute of them. *Secondly*, It was urged, that the fact of textures, which in the healthy state are insensible, becoming exquisitely painful when diseased, proved most unequivocally, that these parts are supplied with nerves. It seems, however, to have entirely escaped these pathologists, that by the first argument they might admit all the textures of the animal body to be essentially the same, though palpably different; and that the second was one of the most perfect specimens of circular reasoning, with which the understanding of the medical world was ever abused; for it must be obvious, *first*, that it implies that the presence of pain denotes the existence of nervous filaments, and that no part is painful unless it be endowed with nerves,—a doctrine which has been long presumed but never demonstrated; and, *secondly*, that, as this cannot be established by any direct proof, recourse must be had to the same evidence of analogy, by means of which the pain which was supposed to depend on nervous filaments when they did exist, was transferred to parts where they certainly were not observed.

We must proceed, however, to notice in what textures nerves have been observed, or have been found wanting. According to Bichât, whose scrupulous accuracy and credibility in observation entitle him to be relied on, in a matter of this description, nerves have never been traced in the following textures; cartilages, both articular and of the cavities; fibrous textures, viz. periosteum, dura mater, capsular ligaments, aponeurotic sheaths, aponeuroses in general, tendons and ligaments; fibro-cartilaginous textures, viz. those of the external ear, nose, trachea, and palpebrae; the semilunar cartilages of the knee-joint, that of the temporo-maxillary articulation, those of the intervertebral spaces; the medulla of bones, the lymphatic glands. To this we may add the testimony of a professed anatomist of the nervous system, whose reputation for patient and industrious investigation, cannot fail to sanction every thing which he has advanced. "In every subject," says Walter of Berlin, "in which I was desirous to trace the nerves, I injected the arteries with red-coloured wax, the veins with green, and even the lymphatics with quicksilver, so that I was enabled to distinguish the nervous filaments from each of these orders of vessels. By this contrivance, although it occupied much time and labour, yet I was satisfactorily convinced that the pleura, the pericardium, the thoracic duct, and the peritoneum, receive no nerves; nay that, contrary to the opinion of the most recent eminent anato-

mists, no nerves terminate in the lymphatic or conglobate glands. Sometimes, indeed, these organs are perforated by one or two twigs, as I have often had occasion to observe, but they instantly proceed to the next place assigned to them, and in which they are finally lost." *

To attempt to offer any opinion, or state any observations after the account thus given, by one of the most laborious and eminent anatomists of the last century, might be viewed by many as singular and unequalled presumption; but that we may not incur the charge, not unfrequently brought against reviewers, of making random and general assertions unsupported by proof, and of offering an opinion derived from inadequate or deficient, or careless observation, we may state, that, after an attentive examination of the dura mater, and the periosteum in many different subjects and in various ways, we have never been able to see any thing like a nervous filament proceeding from any nervous branch to these organs. We examined several years ago the synovial membrane with the same view, but always with the same disappointment; and we entirely coincide with Walter in adding to the above catalogue of aneurose textures, the peritoneum and pleura, in which we never could see that any thing like nerves could be found.

With these undeniable facts before us, it will not be difficult to appreciate the merit of those hypotheses which have employed the nerves so liberally in explaining the phenomena of life and morbid action. We must relinquish, in the mean time, all hopes of unfolding the mysteries of growth and nutrition, pain and inflammation, by the agency of the nervous power. A tendon, a fascia, and a serous membrane, grow and are nourished precisely as a muscle; they are liable to be inflamed and painful as much as any other texture, yet no nerve can be traced into their substance; and we cannot presume that these processes can be influenced by agents which do not exist where they are going on. It gives us great pleasure to perceive that Mr Swan has not attempted to explain these phenomena, although he has almost led us to believe that he has some faith in the doctrine of nervous sympathies where no nerves can be recognized.

"It perhaps will not be required that I say any thing of those affections of nerves which are only sympathies with some distant part, of which many instances may be enumerated; as pain in the knee, when the disease is confined to the hip; pain of the shoulder, when the liver is affected; and, what I have occasionally known, pain in the neck, from disease of the lungs; pain in the penis, in cases of

* Præfat. Tab. Nerv. Thoracis et Abdominis, J. G. Walter.

stone in the bladder, and many other similar affections. All these affections are so common, that it would be useless to relate cases to prove them." pp. 39, 40.

Now, it is remarkable, that of all the examples to which Mr S. has here alluded, only one can be justly and fairly referred to the agency of the nervous power. This is the pain of the shoulder in cases of hepatitis. The others must evidently be ascribed to some of those obscure, and perhaps impenetrable properties, the play of which we occasionally observe in the progress of different diseases, but which we do not explain or even state in other terms, when we attribute them to the influence of the nervous system. It is hard to say whether any better success has attended the various opinions which referred sympathetic morbid phenomena to the communications of parts by means of blood-vessels, by continuity of cellular texture, or of mucous membrane; for the difficulties with which their application is embarrassed, and the imperfect solution which, in many circumstances, they afford, have furnished their opponents with an easy refutation. It has been urged, for example, against the influence of the continuity of cellular texture, that the parts which are most copiously provided with it, such as the scrotum, the mediastinum, &c., are not those in which the sympathetic actions are most conspicuous. Further, when the itching sensation of the glans, which is found to attend calculus in the bladder, is attributed to the continuity of the genito-urinary mucous membrane, it may justly be asked, why is the sensation felt at that single spot, and at none of the intermediate points between it and the situation of the material cause of irritation? And in like manner, when the burning sensation of the soles of the feet, which attends the ulcerating process of the bladder, is attempted to be explained by such means as the consent between the inferior extremities and the urinary organs, it is obvious, that, instead of explaining, *i. e.* of referring the circumstance to any more general fact, we merely express it in other terms. To demonstrate the nullity of the influence of continuity of membranous surfaces, Bichat divided, by a transverse incision, the œsophagus of a dog, and showed that, when the uvula was irritated, the motion of retching was still obvious in the stomach of the animal. This ingenious physiologist, who perceived and demonstrated the inefficiency of each of these modes of explaining the obscurities of such actions, was not, however, entirely discouraged, but, with a bold and decided air, claimed for his own system of animal and organic sensibilities the exclusive privilege of unfolding a mystery, which had long perplexed the most acute and reflecting pathologists. He looked on all sympathetic pains

as mere aberrations of the internal sensitive principle, which refers to one part a sensation, the cause of which exists in another,—an irregularity or disturbance in the perception,—a species of hallucination, in short, which existed in the brain, but depended on a remote morbid condition. In this manner he explained the feelings which persons often experience, and refer to a limb which has been long removed from the body, and all those painful sensations which are felt in sound parts, but which indicate a disease in a different and not unfrequently distant situation of the system. It is utterly impossible for the most ardent admirer of Bichat's talents and ingenuity to defend this very obvious and superficial supposition. It assumes the existence of some internal percipient power, which is supposed to be liable to various errors and mistakes concerning the actual and true situation of various morbid actions. It is certainly not impossible that such a power may exist, but we have at present no direct evidence of it. Of the other sympathetic actions, which he conceived to depend on the organic sensibility and the insensible contractility, Bichat had the good sense not to offer any explanation. Of this description are the cutaneous exhalations in phthisis and hectic in general, some serous infiltrations which take place almost instantaneously, wonderful augmentations in glandular secretion, &c. Of all these, he concludes, the causes are absolutely unknown, and a thick veil covers the agents of communication, which connect, in this instance, the organ which transmits, and that which receives the sympathetic influence.

The sketch, for we call it not a picture, which we have thus rapidly given, is by no means encouraging; it holds out no flattering prospect to those who may yet cling to the doctrines of nervous power and sympathies, as to a cherished and favoured object of regard; or who may, at any future period, attempt the explanation of simultaneous phenomena by means so inadequate to the end. But we may also add, that the result of such explanations should be useful to all future observers and inquirers, and instruct them to distinguish the proper objects of physiological and pathological investigation, and to proceed in the true way of pursuing them. Let them distinguish the parts which are obviously supplied with nervous filaments from those which are not. Let them remark the proportion in which these parts receive nervous chords; and, when this is accomplished, let them observe, study, and arrange, the various properties which respectively belong to these organs; let them separate those which depend on the peculiar texture from those which depend on the nervous ramifications, and remark the properties or phenomena which occur in parts destitute of nerves, as

well as those which are peculiar to parts evidently possessed of these organs. When this has been done there may be some ground for establishing, in a very cautious manner, some general principles regarding the influence of the nervous system; but without such preliminary labours, we contend, that the greater part of what has been hitherto promulgated, has been, and must be, necessarily premature, if not unfounded. It may be thought that we have been too sudden and too confident in removing, in this unqualified manner, so many textures and vital phenomena from the influence of this convenient agent; but we are satisfied that the present state of our information will warrant no more, and it is much better to unlearn the errors of nonage, and stop short with what is precisely ascertained, than to possess a confused and ill-digested mass of uncertainties and fictions constantly floating in the sphere of our intellectual vision.

The knowledge of the organization of the nervous texture cannot fail to facilitate the consideration of those morbid affections to which it is liable, and we trust, that this purpose will be, in some degree, accomplished by the preceding observations. We are, at least, certain that it contributes greatly to the formation of a proper arrangement of these diseases; and, when we examine the plan of our author, which we cannot help viewing as the most exceptionable part of his work, we are induced to think he would have simplified the subject very considerably by deriving his division from this source. As this circumstance renders all analysis extremely difficult, and, in some degree, impossible, we shall, in our further observations, employ an arrangement, which, though not better in itself, may yet be preferable for the purpose of communicating information.

The nervous texture must be liable to the influence of the same morbific agents which induce disease in other parts; it may be the seat of affections which attack all nerves in general and indiscriminately, or it may be the seat of morbid phenomena, to which some nerves only are liable. Every nerve may become inflamed, and this state may be produced by a great variety of causes. Contusion, compression, a ligature, puncture, rupture, entire division, may give rise to this process, or it may take place spontaneously, *i. e.* without any obvious cause. The inflammatory action may affect the neurilema, or the nervous substance, or both at once. In the first case, it seems almost certain that it gives rise to that assemblage of painful sensations, to which the name of neuralgia has been given. We cannot, indeed, prove this with absolute certainty, but there is at least a high degree of probability in its favour. *First*, it may often be traced to such causes as we know excite the inflammatory pro-

cess,—cold, an injury, violence, or irritation of any kind; *secondly*, it is invariably attended with that sensation of heat which seems to denote the inflammatory condition; for the pain cannot be viewed as pathognomonic; and, *lastly*, though it generally occurs in paroxysms, yet this is common to several textures which, when inflamed, are painful only at a certain time of the twenty-four hours. We have never been partial to the fashion of reasoning on the nature of a disease from the effect of remedies on it, but we think that even here there is nothing inconsistent with the supposition which we have advanced. The local, and sometimes the general, detraction of blood proves beneficial; evacuants, counter-irritation, and the antiphlogistic treatment in general have relieved and sometimes cured. Even the irrational operation of dividing the nerve, which, we trust, is now exploded, seems to have effected the only good which it conferred in this manner. We have no wish, however, to say, that every case of tic douloureux is really an inflammation of the neurilema. Our author, with a very laudable regard to unbiassed scepticism, considers them as different affections, and does not proceed to any further generalization, than simply to denominate the tic douloureux and neuralgia painful affections of the nerves of the parts diseased. He, however, admits an inflammatory action about the part, which he thinks is kept up by the primary disease of the nerve.

"It appears to me that the irritation of the nerve is the cause of the increased action of the blood-vessels; nevertheless, this increased action may tend to increase or keep up the irritation of the nerve.

"It has frequently happened, after an operation in which a nerve has been principally concerned, that, either during the healing of the wound, or after it has become completely cicatrized, if an increased action of the blood-vessels is produced, as is shewn by inflammation about the part, the painful sensations resembling tic douloureux are produced. By this I would not say that in this complaint there is an inflammation of the nerve, because I think other facts go to prove that there is not, but it shews that the increased heat and action have a decided effect in keeping up the complaint. The nerves may become enlarged from irritation, as in a case I shall relate, in the same way the muscles are from continued action; but when there has been inflammation of a nerve, though only of the chronic kind, and to which sort that of tic douloureux must bear the greatest resemblance, if it were inflammation, there would be the same change of structure that takes place in all continued inflammations of other parts of the body, viz. an enlargement from the deposit of coagulable lymph. This is shewn when there has been a chronic inflammation of the extremities of the nerves in the stump, or when the nerves have been confined to a part that has been long subject to inflammation; and if

this had been the case in tic douloureux, I think it would not have passed unnoticed." pp. 43, 44.

Mr S. is much more explicit on the identity of sciatica, the *ischias nervosa of Cotunnius*, and inflammation of the neurilema; and we can assert, that it is a long time since we have had occasion to be confirmed in the correctness of this opinion by the history of several cases which we had occasion to observe and to treat.

"In many instances of the complaint called sciatica, I believe the sciatic nerve to be the seat of the disease; the pain is generally so exactly confined to the situation of that nerve, and the adjacent parts are so free from any appearance of disease, that I believe the nerve to be the only part that suffers; and the complaint, as I conceive, is arising from an inflammatory action in the neurilema, which frequently ends in an effusion of a serous fluid." p. 67.

The opinion of Cotunnius was so decided on this head, that he asserts, that the patient can generally trace the course of the affected nerve with the truest anatomical accuracy, merely by describing the seat and direction of the pain.

"Ego interim censeo, qui a sede doloris talium ischiadicorum, atque ab ejus effectis diligenter expensis, ischiadici nervi passionem non agnoscat, fabricæ corporis humani intelligentem medicum fore neminem. Nam quod sedem doloris attinet, ea est talis, ut si velit æger ejus decursum ab osse sacro ad subjectum pedem digito commonstrare, nae ille, veluti anatomes peritissimus, succurrentis ischiadici nervi viam egregie persequatur." (Cotunnius, De Ishiade Nervosa, V.)

Yet it is curious to remark, that Cullen would have been ranked by Cotunnius in this class of observers. (First Lines, 455.)

The treatment of this disease is ably and clearly laid down by Mr S., and we are very little disposed to differ from any part of it except that of the division of the nerve. This operation we have always looked on as but a wanton and unnecessary measure, and in few cases justifying, by its result, even the moderate alarm and pain to which the patient is exposed; and, from what we have seen and known of it, we are not yet disposed to alter our opinion. We deem it greatly more scientific to combat the symptoms by antiphlogistic and evacuant remedies, which, when steadily persevered in, and continued sufficiently long, rarely fail to effect a cure. The tonic remedies, even, which have been employed, produce their effect nearly in the same way, viz. by equalizing the circulation and obviating local determinations. If, however, it shall be subsequently shown, that the division or excision of the affected portion of

nerve, is a certain and efficacious cure, our minds are still open to conviction, and we shall not delay to acknowledge the superiority of the remedy.

Inflammation may terminate in various ways; it may produce effusion of lymph; ulceration; or it may induce a low chronic action accompanied with the enlargement of the nerve, or the growth of foreign bodies. The first of these effects is always found to follow wounds of nerves, and is not unfrequently succeeded by local paralysis. It is uncertain whether the neurilema or the nervous substance supplies the lymphatic exudation, but it is always accompanied with considerable uniform thickening of the part. Ulceration of nervous texture, though a rare disease, has occurred to our author, in a well marked form, in the fibular nerve of a man somewhat advanced in life, in whom a malignant fungating and painful ulcer had succeeded to an injury received from the kick of a horse. Both the fibular and the anterior tibial nerve were very much enlarged, which was evidently owing to the chronic inflammation, which was continually carried on by the irritation of the ulcer. pp. 73, 74.

A tumour, or new growth, may occur in a nervous trunk, or it may arise from the contiguous textures, and ultimately incorporate itself with the nerve. In either case nearly the same symptoms are remarked; acute and excruciating pain in the course of the chord, accompanied with occasional spasmodic twitches of the neighbouring muscles with which the nerve is connected, and subsequently loss of power and entire paralysis of these parts. The cases which Mr S. mentions seem to have been principally of the latter kind, which originated in the cellular texture so near the nerve, that it was quickly blended with the nervous substance. It seems exceedingly doubtful, whether the nervous matter has itself a tendency to the formation of these growths, or the malignant degeneration, unless we admit the fungus hæmatodes to be of this description; but although we could establish the fact that the fungus hæmatodes does occur in the nervous texture, yet we have no proof that it is the peculiar and exclusive degeneration of it, since we find at least varieties of this disease occurring in cellular membrane, serous membrane, muscle, periosteum, &c. For all these growths the remedy is uniform, excision where the part is accessible, and where the affection is not so general as to seem the result of constitutional tendency. We have had occasion to see some of these malignant productions so extensively diffused through the system, that it would have been requisite to dissect out at least one-third of the nervous chords of the body, in order to extirpate the actual disease. In such deplorable and hopeless cases,

it is needless to say that the dexterity of the anatomist is unavailingly employed.

The interesting and important subject of punctured nerves, an accident which occurs daily in a very common operation, and in other less necessary circumstances, has justly claimed a large portion of our author's attention. The symptoms are abundantly well known, but the treatment seems often very little under the control of the surgeon. In one violent and severe case, after the application of a tourniquet had been unsuccessful in suspending the convulsive motions, Mr S. was fortunate enough to find that a transverse division of the affected chord completely destroyed the morbid actions. It is well known that tetanic symptoms are by no means rare after injuries of this description, and form one of the most alarming sequelae with which the practitioner has to contend. Our limits, however, will not permit us to extend our remarks on this part of the subject, further than to notice, that the author goes on to consider the effects of ligature and compression of nerves. His cases, though neither very wonderful nor uncommon, are yet very apposite, and illustrate the nature of such injuries very satisfactorily.

The experimental inquiry concerning the reproduction of the nervous texture, with which the work is concluded, is very interesting; but the subject is much too important to be considered in this place; and as we cannot do it justice at present, we shall take an early opportunity of calling the attention of our readers to it, in its own character.

The diseases of particular nerves appear to us to follow naturally those of a general nature; but Mr Swan has commenced his work with an account of the morbid affections incident to the nerves of sensation, which we think, as they are naturally more complicated, and perhaps more obscure and difficult to comprehend, might have been examined toward the conclusion of the treatise. If his remarks on this subject have anything objectionable, it is that they are much too brief and cursory, as it might be expected, that the author could not fail, if he had been a little more minute and detailed, to add materially to the stock of practical information. The observations on nervous deafness have been already before the public in the form of a paper in the Transactions of the Medico-Chirurgical Society. We are not disposed to deprive Mr Swan of the merit of noticing an anatomical fact, which, though by no means new to us, may be so to many; but we cannot avoid thinking, that as all discovery bears a relation to the actual knowledge of the discoverer, it would be well for those who claim this distinction, to be intimately acquainted with the his-

tory of the science, and to be aware of the facts which have been established by the industry of their predecessors. The truth is, that the communication between the auditory and facial nerves, which Mr Swan has announced as a discovery, was known long ago to Wrisberg, and is particularly noticed by the indefatigable Scarpa in the following terms: "Inter auditorium nervum, et communicantem faciei, peculiaria et distincta quædam filamenta a Cl. WRISBERGIO detecta occurrunt, quorum filamentarum radices tenuissimæ partim a Pontis substantia in eâ foveâ, quæ media est inter auditorium nervum et communicantem faciei, partim ab eâ sede, quæ est prope originem nervi glossopharyngei, emergunt. Duo, aliquando tria, hujus census filamenta nervum acusticum intra canalem auditorium internum comitantur; mox canalis hujus fundo proxima, ab acustico nervo abscedunt, ut communicantem faciei adeant, cujus fasciculis admixta una simul per Aquæductum Falloppii ad faciem egrediuntur."—Anatom. Disquisit. Sect. II. Cap. III. § 2.

If this passage be correctly understood, it surely gives a very clear account of the arrangement which Mr Swan has described, and which may be easily seen by making a horizontal section of the petrous portion through the superior part of the internal meatus. We speak not in this manner for the purpose of undervaluing Mr Swan's communication, but because it would be unjust to wrong anatomists so meritorious as Wrisberg and Scarpa. The remarks which Mr Swan has made on this communication between the facial and auditory nerves, though neither very new nor very original, are, however, exceedingly good; but we can see no reason for agreeing with him in the use which he has assigned to it. We do not pretend to divine the cause or the object of this communication or junction: it may be accidental, or it may be essential and necessary; but we are satisfied, from numerous trials, that the facial nerves have nothing to do with the transmission of sonorous vibrations from the face to the internal ear, when the mechanism of the tympanum is destroyed. These vibrations are most assuredly, in such circumstances, transmitted by the solid parts of the head, to the petrous portion of the temporal bone, and this we conceive to be abundantly established by the usual experiments.

Here we ought to conclude. We have exhausted, not the subject, but the patience of our readers, and perhaps we cannot expect to be listened to if we prolong our remarks. But it is impossible for us to quit a work, which is both interesting and instructive, without stating our opinion of the manner in which it has been written. We have already bestowed considerable praise on the matter and the information, and we may add,

that the style is in general plain and perspicuous, but we are surprised to find marks of singular carelessness and inaccuracy of expression. It may be, indeed, said, that verbal criticism is but an humble task, and all errors of that description must be lost in the general excellence of the performance; but it is nevertheless our opinion that a work like the present would be more generally esteemed, when written with correctness, if not with elegance. There is at present such a diffusion of general literature and good taste, particularly as to expression and phraseology, that it is very unusual indeed to see any inelegant or even ungrammatical diction. We have noticed as we perused Mr Swan's work a very few of these, and we trust they are not numerous. They were not sought for, since our purpose was not to be delighted or pleased with the discovery of such inadvertencies, but to be instructed and benefited by the important nature of the information. It is impossible for the author to be displeased with the liberty which we take of suggesting to him the propriety of correcting, in a future edition, inaccuracies which blemish the one before us. We take leave of Mr Swan with recommending his work to the careful perusal of our readers.

II.

A Practical Treatise on Tropical Dysentery, more particularly as it occurs in the East Indies; illustrated by Cases and Appearances on Dissection; to which is added, A Practical Treatise on Scorbutic Dysentery, with some Facts and Observations relative to Scurvy. By R. W. Bampfield, Esq. Surgeon. Pp. 352. 8vo, London, 1819.

This is another of those practical works, of which we have recently had occasion to notice so many, from the pens of our naval and military brethren. Works of this nature, detailing the results of medical observation in remote and unhealthy quarters of the world, we have always shown a disposition to receive with peculiar respect, feeling that it would be highly unbecoming in us to animadvert with severity upon the labours of those gentlemen who, in spite of the enervating influence of a tropical climate,—amidst the bustle of a camp,—or the embarrassment of a sickly ship,—find leisure and inclination to detail observa-

tions, and record cases, which cannot fail to prove highly interesting and instructive to those who may be destined to succeed them.

With these sentiments, it will rather be our study to give a summary view of the contents of Mr Bampfield's book, than to enter into any minute criticism on his practice, the more so, as we had recently occasion to advert to this subject in our review of Dr Ballingall's Work on the Diseases of European Troops in India. Between this last mentioned author and Mr Bampfield we observe, in many instances, a coincidence of opinion.

In his introductory chapter, on the nosology of dysentery, Mr Bampfield divides it simply into an acute and chronic species. Of the first he reckons three varieties, differing chiefly in the severity of their symptoms; and the last, exhibiting "unequivocal inflammatory fever," and "acute pain of some part of the abdomen or intestinal canal, including the parts contained in the pelvis." In all these varieties, (if we rightly understand the matter,) inflammation affecting the tunics of the intestinal canal is the very essence of the disease; and the more or less marked form in which it appears will chiefly depend upon the more or less robust habit of the patient,—the greater or less extent to which he may have been exposed, to the exciting causes of the disease, whatever these may be,—and the earlier or later period at which he may have come under medical treatment. Under the second head, of Dysenteria chronica, Mr B. enumerates five varieties, which are to be looked upon as exhibiting various sequelæ of inflammation, and are, we think, chiefly distinguished from each other by the severity of the acute attack, and the extent to which the other abdominal viscera have been involved, along with the intestinal canal, in the preceding inflammation.

In detailing the symptoms of tropical dysentery, our author treats successively of those symptoms which affect the tongue and fauces, the stomach, the intestines, the liver, the urinary and genital organs; of the fever accompanying dysentery, of the derangements of the heart and vascular system, and of the affections of the nervous system; upon all which points many interesting, and, we have no doubt, accurate remarks are made.

Mr Bampfield next treats of the morbid appearances on dissection. Upon this point his own opportunities of observation do not seem to have been very extensive. At the commencement of this chapter, he gives the following summary of their appearances, and refers, in support of his remarks, to various writers on the diseases of India, and also to Dr Cleghorn, Sir J. Pringle, Dr Baillie, and Dr Donald Monro.

"The morbid appearances, which the dissection of those who

have died of tropical dysentery in the East Indies generally discloses are inflammation; visceral adhesions; abscess; ulceration and mortification of the abdominal contents. It may be here observed, that in opening the abomen of those who have died of dysentery from the formation of abscess, a disagreeable gas often issues from the abdomen in considerable quantities, as soon as the peritonæum is divided; and of those who have died of mortification, an intolerably offensive smell is often emitted.

"Patients seldom die of dysentery attended with inflammation of any of the abdominal contents, without its having advanced to suppuration, ulceration, or mortification; hence, few opportunities offer of seeing the effects of simple inflammation alone; but in the dissection of those who have died of abscess or mortification, distinct inflamed patches are sometimes seen, where no abscess has formed.

"In the reflections or continuations of the peritonæum, whether mesentery or omentum, the inflamed patch or part is red, and much thicker than natural, and appears to be formed of a congeries of vessels carrying florid blood. The inflamed part is generally of a dark-red colour in the centre, and gradually losing its deeper shades, it becomes lightly florid as it recedes from the centre to the circumference or borders of the inflamed part. The inflamed part is generally thicker in the centre, and gradually decreases in thickness as it extends to the margin.

"The omentum is sometimes much thickened, and lays attached to the great curvature of the stomach, and, in highly inflammatory cases, it sometimes adheres to the peritonæum lining the parietes of the abdomen. Adhesions are also variously formed, which unite particular viscera to each other, or to the peritonæum; and, in some cases, the abdominal contents are almost all adhering together." pp. 41, 42.

In treating of the diagnosis of oriental dysentery, our author distinctly denies the contagious nature of the disease, as far as his own observation extends, but terminates his remarks on this point by the following passage, in which he admits a possibility of its becoming contagious under certain circumstances.

"The observations on diagnosis may here be terminated, by remarking, that men may be placed in situations in India, favourable to the production of typhus fever, and if dysentery should be combined with it, it is probable that this combination of disease may become contagious. Typhus fever is occasionally met with at Bencoolen, on the coast of Sumatra, and sometimes in Bengal during the cold season; it is, therefore, possible that oriental dysentery may be combined with it, and assume the contagious form. I must candidly state, that I have never met with, or as yet heard of, such a combined form of dysentery in India, as the one whose possibility of existence I have just suggested; nor have I ever seen dysentery com-

municated by contagion, and it would, perhaps, be more proper to consider the typhus fever as contagious, and the dysenteric symptoms as being peculiar to a variety of typhus, which might be denominated dysenteric typhus, instead of contagious dysentery. I must not omit to mention, however, that my friend, Mr A. Copland Hutchison, related to me a very striking instance, in which he found dysentery *in Europe* to be contagious, among the crew of a ship of which he was the surgeon." p. 57.

We need scarcely observe, that these sentiments are consonant to the views which most practical writers now take of this subject; and we consider the profession chiefly indebted to Dr Harty of Dublin for the first clear and distinct exposition of this point.

After a few remarks on the prognosis, our author proceeds to treat of the circumstances predisposing to dysentery, and of its remote and proximate causes. These topics give him occasion to introduce some judicious observations on the precautions necessary to be observed by Europeans on their first landing in India. Suppressed perspiration is considered by Mr Bampfield, as well as by many other writers, to be one of the principal causes of dysentery, and is often induced in India by lying exposed to currents of wind and noxious night-dews.

"Those who lay off in ships, or reside or encamp near the mouths or courses of great rivers, that, at particular seasons, inundate the adjacent country by irruptions over their banks, are subject to dysentery, more especially during the periods that the waters exhale.

"When we lay off the mouths of the Guadavery, at Coringa Bay, on the coast of Coromandel, in June 1808, the night dews from the marshes were heavy and cold, and several very severe cases of dysentery occurred.

"Dysentery is frequently met with among Europeans who are on shipboard in those situations where the stream, or the waters of a river are diverted from their natural channel at high water, for the purpose of irrigating the neighbouring paddy fields, as in various parts of the Hooghley in Bengal; at Whampoa, in China; the second bar; and along the whole course of the river of Canton. It is observed, that the night exhalations or dews in these situations are cold and heavy.

"Dysentery is prevalent on the coast and shores of woody and uncultivated countries, as on the coast of Sumatra, where it is reported, from an actual register, that 365 showers of rain fall annually, and where the land-winds at night blow over the shores and towns, charged with the damp and noxious vapours arising from situations and soil in the interior, so shaded by woods and tangled thickets that the sun never penetrates them.

"In situations such as those described in the preceding paragraphs, thick dews generally arise in the night, and precipitate in considerable quantities; hence, if any Europeans are imprudently exposed to them, especially if the perspirative vessels have been previously excited to inordinate action by spirituous liquors, or violent exercise, it is not difficult to understand, in what manner they become the cause of checked perspiration." pp. 80, 81.

At page 83 he observes,

"Dysentery was most prevalent among the Belliqueux's people, at the Cape of Good Hope, in the month of January 1806, one of the summer months in the southern hemisphere, when it was hot by day, when the winds blew fresh and strong from the Table mountain, and the night dews were heavy; at Madras in the months of April and May 1806, on our first arrival in India; at Trincomalee in October 1806, during the rainy season; in the China seas in August 1807, when we experienced severe gales of wind and much rain; at Malacca and Prince of Wales's Island during the rainy months of October and November; in Coringa Bay in June 1808, as already mentioned; at Bombay, and on the coast of Malabar, during the rainy months of May, June, July, and August, 1809; in China during the winter months, from November to February, and March, 1810, 1811; and of all these situations, at the periods mentioned, I consider Bombay and the coast of Malabar, during the rainy season, the most productive of dysentery: but Bengal and the banks of the Hooghley are said to be equally unhealthy at this season." p. 83.

After a few observations on the proximate cause of dysentery, and on some peculiar phenomena of the disease, our author proceeds to the mode of cure: and here we can only afford room to follow him in his remarks upon blood-letting, and on the use of mercury. These are two of the most important remedies used in the treatment of visceral disease in India. The one we wish to see employed to a greater extent, and the other used with more discrimination. Mr B., as might be supposed from the view he takes of the nature of the disease, is a strenuous advocate for blood-letting.

"From the history and explanation of the symptoms, causes, and consequences of this disease, the reader will hardly be prepared to learn, that the propriety of bleeding in tropical dysentery should be questioned; that a large portion of medical practitioners in both Indies not only discountenance the practice, but have never employed the remedy; and influenced by their opinion and long established practice or usage, many of the old European inhabitants are prejudiced strongly against it. Hence, its recommendation must rest on its merits and utility, and its employment be sanctioned only by its efficacy.

"The lancet, in the hands of the intelligent surgeon, "is the first best gift that heaven bestows;" and by its prudent employment, he can often truly boast of preserving the life of a fellow-creature, and of obtaining a triumphal victory over an inflammatory disease.

"I am able to prove its utility in tropical dysentery by the cases annexed; and I hope to vindicate the principles on which it is employed, by establishing a particular identity of some symptoms in dysentery and enteritis, which are characteristic of intestinal inflammation, and a further analogy between it and inflammation of other viscera possessed of secreting membranes, whose peculiar functions differ from the intestines. A similarity in some of the effects of diseased action in dysentery and enteritis has been noticed at page 97, and the general and strict analogy between the symptoms and effects of dysentery, and other inflammations, has been pointed out in Chap. VII. To these I have further resemblances to add." pp. 101, 102.

"A strict and early attention to bleeding, and the antiphlogistic regimen, is more particularly indispensable and necessary in the inflammatory diseases of hot and tropical climates, than of the temperate zones; for inflammation advances with more active rapidity to suppuration and mortification in a hot, than it does in a temperate climate; and, consequently, gives less time to the practitioner to suspend or arrest its progress, and counteract its effects. This observation has been made by Dr Lind, (*On Diseases of Hot Climates,*) and the fact must be acknowledged by every experienced tropical practitioner. The disease is not easily conducted to the termination by resolution in a tropical climate, without judgment in the choice, and promptitude in the administration, of remedies; "principiis obsta" should be the maxim; and resolution should be accomplished in twenty-four or forty-eight hours, or it may be justly apprehended, that the proper period for its attainment will, in many cases, have past. I have seen suppuration completed in inflammations of external parts in twenty-four hours, and many cases of dysentery terminated fatally from the second to the fourth and seventh day, before I employed venesection, as the principal agent in my practice in inflammatory cases. Mr Christie relates, that two "highly inflammatory cases terminated fatally on the fourth and fifth day." pp. 107, 108.

"I am fully persuaded, that death will not only be a less common consequence of dysentery, if bleeding be more frequently employed; but that we shall not hear of so many dissections, which disclose abscesses of the liver, intestinal investments, and epiploon, ulceration, and other consequences of inflammation.

"Venesection can be dispensed with in the milder and safer forms of dysentery, where the symptoms of inflammation are not present, where the pain is only occasional, and the evacuations are not copious or frequent; these varieties will, in general, yield to the other remedies employed for the cure of dysentery." p. 113.

Had our limits permitted, we should have quoted the whole

of the section on bleeding, as our author appears to have urged the propriety of this evacuation with much effect. He concludes by the following remarks on the sweeping condemnation of this remedy by Dr Maclean:

"Since this work has been in the press, I have been astonished and shocked to find blood-letting in hot climates condemned "as *a pernicious error*;" as a *deleterious practice*, and as "*an evacuation injurious in all diseases*," by *Dr C. Maclean, Lecturer on Diseases of Hot Climates to the Hon. East India Company*, who declares, "That blood-letting is an operation which ought *never, under any circumstance, or in any situation*, to be performed," and that his "Observations were almost all written a *great many years ago*, in the East Indies!!!—*See Results of an Investigation, &c.* Vol. II. *preface* xi. Surely, with these sentiments, Dr C. Maclean cannot have tried it, and, with every deference, I submit to him the "Results" of the cases annexed to this work." pp. 114, 115.

Before quitting this subject, we beg to advert to a passage in our author's preface, where, in speaking of Dr Ballingall's Observations on the Indian Dysentery, he insinuates that, if that gentleman had carried blood-letting to a greater extent, he would not have had to boast of having dissected 100 subjects who died of this disease. Now we happen to know, from the best possible authority, (the surgeon of the regiment in which Mr Ballingall served,) that, from the nature of his education, as assistant to Dr Barclay, the task of opening the bodies of patients frequently devolved upon him, where he had nothing whatever to do with their previous treatment, and where, of course, it would be highly unjust to hold him in any degree responsible for the issue.

After treating of cathartics and diaphoretics, of which the latter class of medicines is not so great a favourite with our author as with many preceding writers, he goes on to speak of the use of mercurial preparations. This section he introduces by observing,

"The preparations of mercury have their peculiar effects in the cure of dysentery, and are admitted, by general acknowledgment and universal experience, to be highly useful and important remedies; but I do not coincide with (because experience will not support) the opinion of those who concede to them the exclusive power of curing dysentery.

"In my remark book, it is observed, that more than fifteen months had elapsed after my arrival in the East Indies, before one fatal case occurred, in the course of which ptyalism had been fully induced and supported. This fact demonstrates the great utility of mercurial preparations; but it very naturally struck my observation, and became

impressed on my mind, that the cases of fatal issue terminated so soon, in general, that time was not granted to excite ptyalism; and, in fatal cases of longer duration, it was strikingly remarkable, that the salivary glands obstinately resisted the action of mercury. A coppery or metallic taste, or mercurial fetor might be perceived; the gums might be white; or a tenderness and soreness of the salivary glands, throat, and mouth, were felt and complained of; but the most diligent and copious continued use of mercury in varied forms, would not induce a free, or in some cases, even the slightest salivation. These facts evidently pointed out, that other remedies were necessary, and that mercury alone should not be trusted to. Hence the necessity of previous bleeding and purging in the inflammatory variety; for when high inflammation is subdued by them, no obstacle will oppose the induction of mercurial irritation, and its beneficial consequences; besides, mercurial irritation often excites general increased action of the heart and arteries, and would, consequently, be injurious, if active inflammation have not in some degree subsided before its induction; and thus Robert Woodcock died suddenly, from abscess, on the day his mouth became sore." pp. 134, 135.

After some observations on the different preparations of mercury, we have some judicious remarks on the effects of ptyalism.

"One important effect of salivation," he observes, "is such a state of soreness, excoriation, or ulceration of the gums, tongue, and cuticular lining of the mouth, as prevents the patient from masticating any animal or other food, that is so hard and solid as to require mastication, and his diet must, from necessity, consist of mild food of thin consistence and of easy digestion, such as congee, arrow-root, sago, panada, gruels, and broths or soups. It is observed, that, during this period, the bowels become easy, and are seldom disordered; the quantity of pus, mucus, serum, or blood, is diminished gradually, or their secretion or discharge subsides, is suspended, or ceases altogether. The intestines also, during this period, are, in fact, kept in a state of comparative quiescence; the feces are less stimulating, and yellow, as in health; the function of transmitting them is but gently exercised; and this state must necessarily favour their recovery from the injuries they have sustained. From this beneficial effect of low and mild diet, arising from the natural necessity of circumstances, may be deduced the wise maxim of keeping the patient on the same diet after ptyalism has ceased, until the bowels become nearly or wholly regular, and the blood, pus, and mucus, have disappeared from the evacuations, or are very greatly diminished.

"After having expatiated on the advantages of salivation, it may be inquired, if it be always a necessary condition in the cure of dysentery. This has been in part answered by an observation, that the various varieties of dysentery sometime yield to cathartics alone, or in conjunction with bleeding and diaphoretics. In such favourable cases, it is not necessary to excite salivation. But should not the re-

medies just alluded to succeed, the hydrargyri submurias, or any other mercurial preparation already in the course of employment, should be persisted in, with the ultimate view of exciting salivation; yet it is not a necessary condition then; for should the diseased symptoms yield, and the morbid secretions cease during its administration, before it has excited salivation, the use of mercurials should be desisted from; but if the disease should not yield to the previous remedies, nor to mercurials, during their exhibition, before ptyalism is produced, then salivation becomes a necessary condition, and mercurials should be persisted in, until it be moderately excited and maintained." pp. 147, 148.

Several of the following sections of Mr Bampfield's work are occupied with observations on the treatment of the different varieties of chronic dysentery; and here our author details some interesting cases in which he was concerned, and points out the necessity of a most guarded attention to diet and regimen in these protracted forms of the complaint.

Subjoined to these observations on the disease as it occurs in India, we have some observations on dysentery as it appears amongst seamen tainted with scurvy. This is a most deplorable form of disease, and we feel most sincerely for the surgeon in whose ship this evil prevails, but fortunately the improvements introduced into the naval department render it now a rare occurrence. In this section of the work, Mr Bampfield introduces a tabular view, exhibiting several circumstances of the disease.

"The most remarkable fact in the table is the disparity in the number of deaths, in the years 1807 and 1809; eleven having died out of twenty-six in the former, and only one out of twenty in the latter year, which is to be accounted for by the following circumstances:—In 1807, lime-juice was not allowed in India for daily issue at sea to the ship's company, and the quantity in my charge did not admit of more than two or three ounces to be given to the worst cases daily. I had not a stock of pickles or vegetables, or any other antiscorbutics, to give a temporary check to its progress; the people were longer affected with it from the longer duration of the cruize; they had not the advantage of obtaining refreshments from such an Island as Roderique; and several died of the disease at sea." pp. 341, 342.

We now conclude these cursory remarks on Mr Bampfield's essay, by observing that, in all the works of this description which we have recently had occasion to peruse, we think we perceive a gradual approach to European principles and European practice in the treatment of tropical diseases; the lancet is becoming more fashionable and mercury less so. No one, we presume,

will accuse us of entertaining those bigotted prejudices against mercury, which are disseminated by some practitioners of the present day; but if in any instance we are inclined to differ from Mr Bampfield, it is in the extent to which he urges the use of this remedy; he is perhaps, in this respect, still too much of an Indian.

We are persuaded, however, that, by the publication of the present essay, Mr B. has done an acceptable service to those young men destined to practise in tropical regions; and to all works of this nature, we feel that a double share of commendation is due,—convinced, that if there is any class of medical officers in the service of the state, more likely than another to treat their patients with increased attention, humanity, and skill, it is those who prescribe to themselves the task of detailing their practice for the perusal and instruction of others, and who thus act, as it were, under a degree of self-imposed responsibility.

III.

Practical Observations on the Colchicum Autumnale, as a General Remedy of great power, in the Treatment of Inflammatory Diseases, both Acute and Chronic; and therefore as a Substitute for Bleeding, in Disorders which are connected with increased action of the Heart and Arteries. By Charles Thomas Haden, Surgeon, &c. 8vo, London, 1820. pp. 84.

The use of the colchicum autumnale, in the manner pointed out by Mr Haden, is certainly new, in so far as he recommends it as a remedy possessed of considerable power in overcoming inflammatory action, so as to become an useful auxiliary to the lancet, and in some instances of peculiar idiosyncrasy to supersede its use. In the form of vinous tincture it has been long employed in diseases of a chronic form, and, so far as we have observed, with beneficial effects. In gout and rheumatism, more especially, some practitioners have thought it a specific, and in these two diseases it certainly must be allowed to have a decidedly beneficial operation, removing the symptoms in a very short time. Mr Haden has not confined the use of colchicum to subacute or chronic complaints, but has extended its use to all diseases of excitement, and has even pushed it in cases, in

which we have hitherto thought it might be followed by doubtful if not dangerous effects.

It is foreign to our present purpose, which is merely to give an analysis of the effects of the colchicum in those diseases pointed out in the work, to enter on the author's speculations in what manner blood-letting operates in subduing inflammation, although we by no means agree with his reasoning on this particular point. This is of less consequence, as in whatever way the operation of any remedy is to be explained, its effect upon the system, when labouring under disease, is of more importance in a practical point of view.

After a few observations on the effects of colchicum on the constitution, our author observes,

"Certain it is, however, that in the author's practice it has proved a remedy of eminent power, in controlling the action of the heart and arteries; and in curing those states of the constitution which we are taught to name diseases of excitement, and as such, it is offered to the notice of the profession.

"In offering these observations on the use of colchicum, I have two duties to perform; the one to give the result of my own experience, the other to do justice to the claims of another. My father, who has practised for nearly forty years in Derby, began the use of colchicum in gout some years ago, at the time Mr Want published his first paper on the subject. At this period, he gave from a drachm to a drachm and a half of Mr Want's tincture, without further mixture, in cases of gout; but finding that forty-eight hours frequently elapsed before the purgative operation of the medicine was produced, and as that operation also was often violent, especially when a repetition of the first dose was required, he began to give the common purging mixture with the colchicum. Under this mode of exhibition he found the beneficial effects of the colchicum to follow more quickly, and to be equally decided as when the purging was produced by colchicum alone. He then extended the use of the remedy from gout to rheumatism, and from the latter to the treatment of cases of inflammation in general, but finding that violent effects sometimes arose from the use of the tincture, he tried the remedy in the form of powder, and as it appeared that it was more manageable in this form, and was, at the same time, quite as certain in its operation, he continued to use it almost exclusively, and has now, for more than six years, employed a combination of powdered colchicum and opening medicine as his common prescription in all diseases of excitement." pp. 6, 7.

Mr Haden then gives several cases of acute disease which occurred in his father's practice, and which were all successfully treated by the colchicum.

"If it be given," he says, "every four hours, until it produce an abundant purgative effect, the pulse will become nearly natu-

ral, from being either quick and hard, or slow and full. This frequently happens even before purging has taken place, and the effect is so certain, that I never bleed unless inflammation exists to an alarming degree in a vital part, and then never more than once. Fevers and inflammations so removed never require the use of tonic medicines during convalescence; the patients, indeed, generally appear to be as well as though they had not been at all the subjects of disease; and although it sometimes happens that a recurrence of symptoms takes place, it is in a much milder degree, and the new disorder is always immediately removed in a few hours, by a very little use of the same treatment."

Mr Haden then gives the result of his own practice. In page 24, a case of acute rheumatism is related, in which the colchicum was employed, but, in this instance, it was ineffectual in removing the disease till bleeding was premised, after which the remedy was given with decided benefit. It is seldom that the very severe form of fever which accompanies acute rheumatism can be subdued by any remedy short of copious blood-lettings, indeed, we should not wish to see a smart attack allowed to proceed when we are possessed of means so efficient to arrest its progress. Colchicum, we allow, may be employed with great benefit after copious blood-letting, or may be trusted to alone in cases where the action of the heart and arteries is moderate, and in those chronic forms of the disease which frequently succeed to the acute in elderly people.

"Miss T, aged 12, had suffered from a hard teazing cough for many weeks, when it increased considerably; great irritation of the larynx, and considerable fever came on. These symptoms were not treated very decidedly, so that at the end of a fortnight, on October 10th, 1820, her pulse was found to have risen to 130 in the minute, and was hard; her cough was dry and constant; she could not fill her chest with air; her skin was very hot, and her face was flushed.

"Under these circumstances, as she had from childhood been of a weakly habit, and was troubled by enlarged glands in the neck, her case was considered to be very dangerous; inasmuch as it was feared, that phthisis had already made considerable advances in her constitution. Four grains of colchicum powder, and two scruples of sulphat of potash, were given four times in the twenty-four hours, and the assistance of a physician was requested. On the next day and the day following, no material change took place. The medicine, however, by favour of the physician, was continued; and as the bowels had not been moved, three grains of calomel and two of aloes were given, in addition, at bed-time. It may be necessary here to state, that the disease might have hitherto been in some degree kept up, by the patient having indulged her appetite more largely with the vegetable food, that was allowed, than was proper.

"On the 4th day, a great change had taken place; the bowels had acted copiously, and all the symptoms were relieved; so that on the 5th day her pulse was reduced to 80, and on the 6th, to 72 beats in a minute;—the bowels having acted fully every day. She had been in bed for the four preceding days, but was now permitted to sit up for a few hours in the afternoon; only half the quantity of colchicum was now given, and in two days after, it was left off altogether.

"October 26th.—This young lady has continued to improve. Her tongue is quite clean, and has been so, since the full operation of the colchicum; her cough is very nearly gone, and she feels quite well; but on account of the delicacy of her constitution, and the other circumstances of the case, it is determined that she shall keep wholly in a warm atmosphere during the next winter.

"It is right to state, that the physician's fears of consumption being far advanced, were, in the first instance, equally strong with those of the writer, or perhaps stronger." pp. 40—42.

Our author, page 48, gives a case of pneumonia which was treated by the colchicum.

"Mrs H. a laundress, aged 30, took cold on October the 1st, 1820; and it would appear, from her account, that her symptoms were those of pneumonia. She, however, continued her usual avocations as far as she was able; and although her appetite did not allow her to take much food, she drank her usual quantity of porter every day. On the 17th day of her disease, I was called in, and found her labouring for breath, suffering much from cough, and distressed by symptoms of violent fever; her pulse was 120, and hard, and her skin was very hot. Five grains of colchicum powder, and a drachm of sulphat of potash, were ordered to be taken every six hours.

"18th day.—The symptoms were very little altered, and the medicine was continued.

"19th day.—There was, if any thing, an aggravation of symptoms; indeed her state was such, as to have peremptorily demanded the use of the lancet, under ordinary circumstances; especially, as the bowels had been copiously acted on by the seven doses which the patient had taken. However, a pill, containing three grains of powdered colchicum, was ordered to be taken three hours after each dose of the powders; when, on the 20th day, she felt much more comfortable in all respects, and on the 21st, every symptom was materially relieved. Her pulse was 100, and small; her breathing was 30 in the minute, that is, 18 less than on the 19th; her skin was cool; she had slept all night; and she felt almost well. During the last two days, the bowels had been very frequently and severely acted on; and, therefore, as she had, in that time, taken six doses of the pills, and as many of the powders, she was directed to take only two doses of each, during the next twenty-four hours: and not that if the purging continued. It was very satisfactory to see how much

the complexion, the colour of the lips, and the general appearance of the patient, as to health, had improved during the last two days; indeed, a medical friend who saw her on that day, because the amendment had been so remarkable, would scarcely believe that she had been so ill; indeed, he found her in the street. Smaller doses of colchicum were ordered, and on October 26th, she was really well, her pulse being 76, although she had walked quickly down stairs, and she said her strength would permit her to walk to town with ease, if it were necessary.

"The remark will be excused, that the quantity of strength remaining to the patient, after the subsidence of this severe affection, was very different from what it would have been, if the cure had been performed by bleeding." pp. 48—50.

In this case, the power of the colchicum in subduing diseases of excitement is more decidedly marked than in any other our author has detailed. Still, however, we confess, Mr Haden evinced more confidence in his favourite remedy than we could have felt ourselves warranted to give it. Although he hazarded too much, the case terminated favourably, certainly from the beneficial action of the colchicum, although we should by no means recommend its exclusive use in so formidable a disease. Would not the bleeding the author alludes to have cut short the severity of the symptoms, and aided the colchicum in subduing the disease?

Mr H[illegible], in the subsequent part of his book, gives the detail of several cases illustrative of the good effects of the remedy, and to which we must refer our readers who are anxious to make a trial of it. The cases of threatening laryngeal inflammation, which occurred in the author's children, will be read with peculiar interest. With regard to the mode of exhibition, it may be necessary to point out the plan recommended in the work.

The ordinary form is a powder, composed of one part of powdered colchicum, three of carbonate of potash, and five of sulphate of potash. Of this powder, one drachm is to be taken three or four times a-day, in half a pint (fl. ℥iv.) of warm water, in the state of effervescence with tartaric or citric acid. To this is sometimes added a dose of calomel at night; and when the bowels are not freely moved before the second or third day, and the disease is violent, salts and infusion of senna to quicken its operation; but, in very violent cases, more colchicum is required, whilst no more purgative medicine can be borne, and then pills of colchicum only, as in the case of pneumonia, detailed page 48, are given between the doses of the powders. In violent cases, pills of calomel, with from five to eight or ten grains of colchicum are given in the first instance, to be followed by the powders as directed above.

In chronic complaints, a small dose of calomel, or blue pill and aloes, with two or three grains of ipecacuanha, is usually given at bed-time, every night, and one or two of the drachm powders in the day.

In children, and weakly subjects, the dose of the compound powder, in all cases, varies from sixteen grains to two scruples, so as to give from two to five or six grains of the colchicum, the full drachm containing about seven grains.

We certainly think this remedy entitled to a cautious trial, and have no doubt it will prove useful in subduing diseases of excitement, but still more so in those of a subacute or chronic nature. Still we must caution our readers to watch its effects, as we have known very unpleasant symptoms follow its use, when the medicine, from peculiarities which occur in the use of more simple remedies, seems to have disagreed with the patient. Much depends on the attention which is given to the preparation and drying of the plant; indeed, it would add much to the security of the public, as well as to the certainty of the operation of remedies prescribed by the physician, that adulteration of medicines could be more effectually obviated.

IV.

Versuche ueber die Wege, auf welchen Substanzen aus dem Magen und Darmkanal ins Blut gelangen; ueber die Verrichtung der Milz und die geheimen Harn-Wege. Von T. Tiedemann und L. Gmelin, Professoren in Heidelberg. Pp. 119, 8vo. Heidelberg, 1820.

This is a work of no common merit. It contains an account of an able investigation of some of the most interesting questions in physiology; and the results are so clearly stated, that, in the following article, we have had nothing more to do than to select, translate, and connect the various results as given by the authors themselves.

The question, which some physiologists have again agitated, whether there are any other means of communication than that of the *thoracic duct*, by which nourishment and medicines can pass from the intestinal canal into the mass of the blood, is of equal importance, both to physiology and the art of healing. To answer it new experiments were required; for the grounds

on which physiologists have stated that absorption takes place by the roots of the vena portæ, render it only probable, and cannot be regarded as proving it. To ascertain the fact, Professors Tiedemann and Gmelin resolved on instituting a set of experiments with carnivorous and graminivorous animals, namely, dogs and horses.

In these experiments the animals had different substances given to them, the presence of which might be easily known by their colour, their smell, or by some chemical qualities. The chyle of the thoracic duct and of the lacteal vessels, the blood of the mesenteric veins, of the splenic vein, and of the vena portæ, as well as of other blood-vessels, were taken out and chemically examined. The chyle was then compared with the blood taken from these different sources, and the different kinds of blood were compared with one another, in order to answer the following questions:

1. What substances are taken up from the intestinal canal, and poured by the lacteals into the thoracic duct?

2. Do certain substances appear simultaneously in the thoracic duct and in the blood of the mesenteric veins, of the splenic vein, and of the vena portæ?

3. Do certain substances appear only in the blood of the vessels connected with the vena portæ, and not at all in the chyle of the thoracic duct?

In the course of these experiments our authors were led to inquire into the functions of the spleen, and into the supposed secret passages of the urine, which, at the beginning of their experiments, they had no intention of doing.

The series of experiments was made in the presence of the most distinguished pupils of the School of Heidelberg. In the valuable volume before us they are first described singly in detail, and afterwards the various conclusions derived from them are analytically stated.

The experiments are apparently only sixteen in number, but in reality much more numerous, as various substances remarkable for their smell, taste, colour, or chemical action, were given to the same animal, and at various periods before it was killed to ascertain the results.

The first set of conclusions indicates the places of the alimentary canal, in which the various substances given by the mouth were found after death. The object was, to ascertain the quantity of them successively absorbed in the stomach, duodenum, and other portions of the gut; and in this respect the results relating to odorous, colouring, and saline substances, are separately stated.

The odorous substances employed were camphor, musk, alcohol, oil of turpentine, garlic, and asafœtida; and it appears from the experiments that these substances gradually disappeared in the small intestines, while, on the contrary, colouring substances, even where they were given at the same time, were found farther down in the intestinal canal. The opinion of those physiologists who assume that alcohol is totally absorbed in the stomach, is wrong; for, in these experiments, it was still observed in the small intestines.

The colouring substances given were indigo, sap-green, gamboge, madder, rhubarb, alkanet, and tincture of litmus, and these observations show that several colouring substances, namely, indigo, madder, rhubarb, and gamboge, are not destroyed, either in the stomach or in the intestinal canal, and that the greater part of them passes off with the excrement. Portions of these substances which are absorbed from the intestinal canal, were again detected by their peculiar colour in the urine, but not in the chyle of the lacteals, or of the thoracic duct; they appeared, on the contrary, in the serum of the blood of the vena portæ.

It is worthy of remark, that the tincture of litmus and of alkanet became red in the stomach and intestinal canal, which therefore proves the predominating acid property of the gastric juice, denied by several eminent physiologists. In numerous experiments on the properties of the gastric juice of dogs, cats, rabbits, and horses, our authors have repeatedly found that it acts like an acid. The chyme, when transferred into the duodenum, also displayed acidity, and coloured tincture of litmus red. On passing further on through the small intestines, its acidity gradually disappeared. It is, however, remarkable, that the liquid which is plentifully separated in the *intestinum cœcum* coloured the tincture of litmus red. This intestine appears therefore to supply the place of a stomach, in which the portion of the food not dissolved in the stomach and intestinal canal is again mixed with an acid solvent, to effect its perfect liquidity and solution. The fluid separated in the gizzards of fowls has the same effect. According to the experiments of our authors, it colours tincture of litmus red. The gastric juice of frogs does the same. It results from chemical experiments on the nature of the gastric juice, in which our authors are still engaged, that in this substance there are two different acids, one volatile and the other fixed. The former is probably the acetic acid, the latter the acid of milk.

The salts employed were prussiate of potass, sulphuro prus-

siate of potass, muriate of barytes, muriate and sulphate of iron, acetate of lead, acetate and prussiate of quicksilver. A great portion of these earthy and metallic salts appears to pass off with the feces; different salts of this kind, when absorbed, show themselves in the urine; a very few are met with in the chyle of the thoracic duct; several, however, are found in the blood of the mesenteric veins, and of the vena portæ.

The next set of conclusions relates to the passage of various substances into the chyle, as ascertained by the examination of the chyle taken from the lacteals and thoracic duct.

The colouring substances given to the animals never passed, as such, into the chyle of the thoracic duct, for our authors could not in any one experiment detect their presence, either by their colour or by the aid of chemical tests. Neither did they ever show themselves in the lacteals, or in the chyle taken from them.

These results contradict several of the results of the experiments of the older physiologists. Martin Lister * and Musgrave † said, that in their experiments on dogs, they found, after giving indigo, the chyle of the thoracic duct, or of the lacteals, coloured blue. Baller, Gould, and Foelix, pretend to have seen the same thing. Even in J. Hunter's experiments, colouring substances are said to have passed from the intestinal canal into the absorbents. Haller ‡ and Blumenbach, § who repeated Lister's and Musgrave's experiments with indigo, affirm they obtained the same results. Viridet ‖ and Mattei are even of opinion that the chyle of the thoracic duct was coloured yellow after they had fed animals on the yolk of eggs, and red after feeding them on beet root. But Hallé, ¶ who made many experiments on dogs, in order to ascertain if the chyle of the thoracic duct was coloured by matters mixed with the food, never perceived any change of colour effected in this way. Neither could Magendie ** observe any such change in the chyle of dogs, to which he had given indigo, rhubarb, madder, and saffron.

Our authors, therefore, express doubts as to the experiments made by the older physiologists, and think it probable

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* Philosophical Transactions for the year 1701, p. 819.
† Ibid. p. 996.
‡ Elem. Physiol. T. VII. p. 62.
§ Instit. Physiol. p. 357.
‖ Tractat. Med. Phys. de Prima Coctione, p. 280.
¶ Fourcroy, Systeme des Connaiss. Chim. T. X. p. 66.
** Physiol. T. 2. p. 157.

either that they were not sufficiently cautious and correct in performing their experiments, or that they suffer themselves to be deceived.

Smelling substances, like the colouring matters, were not observed in the chyle, either of the thoracic duct, or of the absorbents of the intestinal canal. Dumas, Magendie, and Flandrin, who also gave animals odoriferous substances, such as camphor, alcohol, and asafoetida, were never able to observe the smell of any of these substances in the chyle of the thoracic duct.

In regard to saline substances the result was not uniform. Lead, mercury, baryta, were not found in the chyle in any of the experiments in which they were employed. In the chyle of a horse which had got sulphate of iron, some iron was detected, but none in that of two dogs which got the muriate and sulphate. Prussiate of potass occurred in the chyle of one dog but not in that of another; and sulphuro-prussiate of potass appeared in the chyle of a dog to which it was given.

Perhaps it may be objected to these experiments, that the colouring, smelling, and saline substances given to the animals, were actually taken up by the lacteals, and already poured into the blood-vessels through the thoracic duct, and, consequently, at the time when the chyle was examined, they were no longer to be found in it. This objection can have no weight; for in every case there was found in the stomachs and intestinal canals of the animals, when killed, abundance of these substances, which was consequently still exposed to the action of the lacteals.

On the whole, it follows that the lacteals chiefly take up the digested and dissolved portions of alimentary matters, and convey them as chyle through the thoracic duct to the blood-vessels. Smelling and colouring substances are not absorbed by them. Saline and metallic substances appear to be taken up by the lacteals only as an exception to the general rule; nor does the occurrence of saline substances in the chyle of the thoracic duct prove that they were taken up by the lacteals, for they might have been absorbed from the secreted urine, in which they soon show themselves.

But as it is a fact, that several colouring matters, such as indigo, rhubarb, madder, and gamboge, appear in secreted fluids,—for example, in the urine; and that smelling substances, such as camphor, musk, garlic, and others, which are taken into the stomach and intestinal canal, impart their smell to the exhalation from the skin and the lungs, we are immediately forced to conclude, that there must be some other way than

the thoracic duct, by which substances pass from the intestinal canal into the mass of the blood, and from this into the secretory organs.

The next set of conclusions relate to the vital phenomena of the thoracic duct and lymphatics.

The thoracic duct possesses a living contractile power; for when it is tied and punctured, the chyle springs out like the blood from an opened vein. This appearance is not a consequence of the mere elasticity of the sides of the duct, as Mascagni, Bichat, and others supposed, but is the effect of a living contractile power. This is evident, because, in a certain time after death, the chyle does not spout out of the thoracic duct when tied and pierced, but merely exudes from it. It therefore follows, that the reaction of the sides of the thoracic duct, on the fluid it contains, depends on life, and disappears soon after death. The same phenomena were observed in the absorbent vessels of the intestinal canal, in those of the thigh, loins, and other parts. Immediately after the death of the animal, the chyle and lymph spouted out of these vessels when they were punctured. Some time after death, however, the liquor they contained merely exuded from them.

Several physiologists explain this appearance, by supposing that the sides of the absorbents possess irritability. This opinion is in some measure supported by the visible contraction of the thoracic duct, and other absorbents, when exposed to the effect of the air. In opposition to this, however, it is remarked by our authors, that in these and other experiments formerly made, they never could perceive any contraction of the absorbents, when exposed to mechanical or chemical exciting causes, as happens with muscular substances. Sulphuric acid alone, when applied to absorbents laid bare, causes a contraction, as it does in arteries and veins; but it is doubtful, however, if this phenomenon be not the consequence of a chemical action on the coats of the vessels; for absorbents, arteries, and veins, which our authors had preserved in spirit of wine for a year, visibly contracted in the same manner, on the application of sulphuric acid.

Our authors, therefore, think themselves justified in ascribing to the absorbents, arteries, and veins, and also to the excretory ducts of several glands, a living contractile power, different from irritability, by which the fluids they contain, such as the chyle, the lymph, the blood, and the fluids secreted from it, are propelled. These fluids keep the vessels in a forced state of extension, and the living contractile power of the coats of the vessel re-acts on the fluid, and propels it forward. Dr

Tiedemann informs us in a note, that he will explain himself more fully on this subject in a separate treatise, intended to contain the experiments which he has made on the manifestations of life in the arteries and veins of animals.

The fourth set of results relate to the observations made on the blood. The blood of the mesenteric veins was in some cases found to smell of the odorous substances taken into the stomach; thus of camphor in one horse, and somewhat of musk in another. The serum of the blood taken from the mesenteric vein of a horse, which had got a good deal of indigo, was of a dark yellowish green, and in that of a dog rhubarb seemed to be present. Salts given were often discovered in the blood of the mesenteric veins, as prussiate of potass, sulphuro-prussiate of potass, traces of lead and iron.

The blood of the splenic veins was the next subject of investigation. Our authors here remark at the outset, that they have not found the statement of Senac, Roloff, Hartmann, Haller, and others, that this blood does not coagulate, in any way confirmed. In all the experiments of our authors in which blood was taken from the trunk of the splenic vein, they saw it, when exposed to the action of atmospheric air, coagulate and separate into serum, and into crassamentum, containing red particles, and sinking to the bottom, like other venous blood. They therefore entirely disregard the consequence which has been deduced from the above supposed property of the splenic blood, viz. that it was of essential service in secreting the bile, and they ascribe to the splenic blood no other part in this secretion than what may arise from its being poured into the trunk of the vena portæ and augmenting the mass of the blood from which the secretion of the bile chiefly takes place.

As several of the substances given to the animals appeared in the blood of the trunk of the splenic vein, which were not detected in the chyle of the thoracic duct, some physiologists may be disposed to regard this circumstance as a proof of Sir Everard Home's * former opinion, that substances are taken up in the cardiac portion of the stomach, conveyed into the spleen, and there mixed with the blood. But, without taking into account that Sir Everard retracted this opinion in consequence of his later experiments, † they observe, in opposition to it, that, in several of their experiments, precisely the same substances were found in blood taken from the coronary veins of the stomach, and from the trunk of the splenic vein. It is, therefore, pro-

* Philos. Transact. for the year 1807, p. 45.
† Ibid. for 1811. P. I. p. 163.

bable, that the veins of the stomach generally, and consequently, also, the veins corresponding to the *vasa brevia*, which communicate with the trunk of the splenic vein, take up substances in the stomach, and in this way the presence of these same substances in the blood of the splenic vein is to be explained.

In the blood of the *vena portæ* our authors detected odorous substances, as camphor, animal empyreumatic oil, and musk, indigo, rhubarb, prussiate of potass, sulphuro-prussiate of potass, iron, lead, and baryta, either decidedly, or, at least, traces of them, and they observed commonly in the blood of the vena portæ, both of dogs and horses, white chyle-like streaks.

From the fact of various substances being found in blood, taken from the different mentioned veins, and not making, in general, according to these experiments, their appearance in the chyle of the thoracic duct, it follows, that this duct is not the only and exclusive channel by which substances pass from the stomach into the blood. Since colouring, smelling, and saline substances pass from the stomach and intestinal canal into the vena portæ, it is necessary to inquire by what way or passage this is effected, and the following are the only suppositions which can be made: Either all the lacteals do not enter the thoracic duct, and part of them joins the veins which, by their union, form the vena portæ, and through these substances absorbed from the stomach pass into the blood of the vena portæ; or substances pass directly from the stomach and intestinal canal into the veins; or, finally, both of these suppositions are true.

As to the communication between the lacteals and the vena portæ, it was not only supposed by several of the older anatomists to take place, but was rendered very probable by several observations. Joh. Walæus * found, on tying the trunks of lacteals, that the chyle passed into the vena portæ; Rosen and Wallerius, † J. F. Meckel, ‡ J. F. Lobstein, § and G. C. Lindner, ‖ perceived, on filling the absorbents of the stomach, of the intestinal canal, and of the spleen, with quicksilver, that it passed into the vena portæ; Astley Cooper, ¶ also, found quicksilver in

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* Epistolæ duæ de motu Chyli et Sanguinis ad Th. Bartholinum, in Bartholini Anatomia, edit 5, p. 789.

† De Existentia Vasorum Absorbentium in Intestinis. Upsal, 1731.

‡ Nova Experimenta et Observationes de finibus venarum ac vasorum lymphaticorum. Berlin, 1772, p. 5.

§ De Liene. Argentorati, 1774.

‖ De Lymphaticorum Systemate, Hal. 1787-8.

¶ Medical Records and Researches, selected from the Papers of a Private *Medical* Association. London, 1798. Vol. I.

the vena portæ after injecting with it the absorbents of the mesentery.

Such a communication between the absorbents of the stomach and the intestinal canal, and the vena portæ, is, however, absolutely denied by Haller, Mascagni, Cruikshank, Lieutaud, Portal, Sömmering, Hewson, and others. But, as happens not unfrequently in anatomy, physiology, and medicine, the authority of these celebrated men appears to have suppressed a truth. Though this assertion may appear bold to many persons, our authors feel themselves authorized to make it by later observations on this subject. Mr Fohmann, dissector at the anatomical theatre of Heidelberg, who has long been employed in examining the secretory glands of the intestinal canal, and the absorbents, saw the quicksilver with which he had filled the absorbents of the intestinal canal of two seals, force its way into the vena portæ. In order to ascertain if such a communication also existed in other animals and in man, the absorbents of the intestinal canal of two dogs, one horse, one cow, and of three human bodies, were injected with quicksilver in the presence of our authors. In all these animals, and in the human bodies, in which the injection was begun soon after death, and carried on with the greatest care, the quicksilver reached the branches of the mesenteric veins and the vena portæ, without any exterior force being employed. On a closer examination, it turned out that the communication of the absorbents, with the veins of the intestines, took place in the mesenteric glands, and that all the veins proceeding from a gland, which was filled with quicksilver, also contained it. The communication was very quick and easy in the seals and dogs, in which the mesenteric glands, heaped together in a lump, form what is called the *pancreas asellii*. As these experiments had the same results in six animals and three human bodies, they make it very probable that there is a communication between the absorbents and the mesenteric veins in the parenchyme of the absorbent glands.

It may be objected to the preceding conclusion, that the passage of the quicksilver from the absorbents into the mesenteric veins takes place in the mesenteric glands, that the quicksilver entered into the veins in consequence of the absorbents being ruptured. But if this had been the case, both the veins and the absorbents must have been burst, which is very improbable. The explanation of this phenomenon by supposing the sides of both the veins and absorbents to be ruptured, is also contradicted by the quicksilver passing from the absorbents into the veins in every one of the bodies subjected to these experiments.

From the very probable communication of the lacteals with

'the mesenteric veins, our authors think themselves enabled to explain the appearance of streaks of a substance like chyle, of a whitish colour, which are perceived in the blood of the vena portæ, after taking food. This phenomenon was observed by Harvey, Swammerdam, de Bils, Menghini, J. F. Meckel, Brendel, Alexander Monro, and others. Even Cruikshank, who denies the connection of the lacteals with the veins of the intestines, acknowledges that he has often observed a chyle-like fluid in the blood of the vena portæ, though he did not know by what means it got there.

Our authors also mention, as another proof that a part of the chyle taken up by the absorbents in the intestinal canal passes into the vena portæ, the experiments made by tying the thoracic duct. G. Duverney * tied the left *subclavian* vein of a dog above the junction of the thoracic duct with this vein, and the animal lived fifteen days. Astley Cooper also tied the thoracic duct of several dogs before it enters the subclavian vein. Nine of these survived more than ten days, and no one died during the two first days after the operation, although, on dissection, the thoracic duct was found burst, and the chyle poured into the cavity of the abdomen. It is highly probable, that in these animals a portion of chyle had passed into the vena portæ, and that their lives by this means were supported for some time.

Though the appearance of chyle-like streaks in the blood of the vena portæ is explained by this connection of the absorbents with the veins of the intestines, the passage of colouring, smelling, and saline substances from the intestinal canal into the blood of the vena portæ, does not take place in the same way. This is clear from several of these experiments. The chyle which was taken out of the lacteals in the eleventh experiment, which was made on a horse, to which indigo and camphor had been given, was as devoid of blue colour as that taken from the thoracic duct, and did not smell of camphor. Chyle taken from the lacteals of a horse, to which musk and spirit of wine had been given, emitted no smell of these substances. And, finally, the chyle taken from the lacteals of a horse, to which gamboge and spirit of turpentine had been given, did not look in the least yellow, and did not smell of turpentine. As the blood of the mesenteric veins, and of the vena portæ, emitted the odour of camphor and musk in these experiments, and its serum had a yellowish-green appear-

* Mem. de l'Acad. des Sciences de Paris, 1675.

ance probably derived from the indigo; and, farther, as the blood of the mesenteric veins, and of the vena portæ, appeared to contain several of the other substances exhibited, which were not found in the chyle of the thoracic duct, our authors conclude that there are other channels than the thoracic duct and the absorbents connected with the veins of the intestines in the mesenteric glands, by which substances may pass from the intestinal canal into the mass of the blood. These channels can only be the *roots* of the veins of the intestines.

It follows from these experiments, that the veins of the intestines appear particularly to take up the heterogeneous substances, such as the smelling and colouring matters, the metallic and saline substances, while the absorbents of the intestinal canal rather absorb the proper nutritious matters. The examination of the blood taken from a branch of the mesenteric vein of a dog, to which sulphuro-prussiate of potass had been given, supports this opinion. This blood did not contain any chyle-like streaks, but sulphuro-prussiate of potass was perceived in it. Chyle-like streaks, however, appeared in blood taken from the trunk of the vena portæ.

The opinion that substances are taken up from the intestinal canal by the veins of the intestines, is farther supported by the appearance of these substances in the mass of the blood, although the thoracic duct has been previously bound up. Sir Everard Home * tied the thoracic duct in rabbits just before its junction with the subclavian vein, and then conveyed a dose of rhubarb into their stomach. On causing the animals after a short time to be killed, and their fluids examined, he found rhubarb in the urine, in the serum of the blood, and occasionally in the bile; but there was no trace of it in the chyle of the thoracic duct. It cannot, therefore, be objected, in this case, that the rhubarb had probably reached the blood-vessels through some of the side branches of the thoracic duct, which had been left untied. A. C. Mayer † also found prussiate of potass in the mass of the blood and in the urine of several animals, to which it had been given after a ligature had been applied to their thoracic ducts.

Finally, the effect of different poisons introduced into the intestinal canal, after the thoracic duct was tied, may be brought forward to support the opinion that substances are

* Philosophical Transactions for the year 1811, p. 1, p. 163.
† Deutsches Archiv. für die Physiologie, B. III. S. 496.

taken up by the veins. Magendie tied the thoracic duct of a dog in the neck, a little before its junction with the subclavian, and then gave it two ounces of a decoction of nux vomica, which is a strong poison for dogs. The animal died shortly afterwards, and in as little time as other dogs of which the thoracic duct had not been tied. On opening the body it was evident that this passage had been well secured, and that a double passage did not exist. On another occasion, two ounces of decoction of nux vomica were thrown into the rectum of a dog after the thoracic duct was tied. The effect was the same as if no ligature had been applied, and the animal died very speedily. As the nux vomica, like other similar poisons, so far as we know at present, only displays its pernicious effects when conveyed into the mass of the blood, and as it could not pass into this fluid by the thoracic duct in these experiments, it must have entered into it through the vena portæ.

Although, from the above reasons, it cannot be doubted that certain substances pass from the intestinal canal into the veins, yet nothing certain can be said of the manner in which they pass. Emmert * was of opinion that poisons affected the blood by penetrating through the sides of the blood-vessels, aided by some attraction of the blood itself, in the same manner as the gravitating portion of the air forces itself in breathing through the sides of the blood-vessels of the lungs. It is more probable that there are short minute branches of veins arising from the mucous membrane of the intestinal canal, which are united with the sanguiferous veins of the intestines, and that the substances are taken up by these.

As the blood of the vena portæ, with those substances taken up by means of the absorption of the veins in the intestinal canal, and with a part of the chyle which appears to be poured into the veins by means of absorbents within the mesenteric glands, flows through the capillary vessels of the liver, and is mixed with some of the arterial blood of the hepatic artery before it passes through the veins of the liver and the *cava inferior* into the right auricle, and as the bile is chiefly separated, as an excrementitious matter, from the blood of the vena portæ, the relative proportions of which are thus changed in a peculiar manner, we must, at the same time, regard the liver as an organ of assimilation for those substances which are taken up from the intestinal canal. The liver, into the vessels of which, in the

* Ueber die Wirkungsart der Gifte, in d. Tubingen Blättern, B. II. St. 1, S. 88.

fœtus, the blood, returning with the absorbed substances, through the umbilical veins, is in great part poured, remains thus after birth and through the whole course of life an organ in which the substances taken up in the intestinal canal, partly by the absorbents and partly by the roots of the veins, are mixed with the venous blood, in order to repair the waste of the blood. In this respect there appears a great analogy between the action of the liver in the fœtus and after birth.

The ultimate result of the experiments performed by our authors on the channels by which substances pass from the stomach and intestinal canal into the circulating mass is this. The alimentary matters, the smelling, colouring, saline, and metallic substances taken into the stomach and intestinal canal, after being mixed with several fluids, separated from the mass of the blood to promote assimilation, such as the saliva, the gastric juice, and the bile, may pass into the mass of the blood by several channels:

1. Through the absorbents and the thoracic duct.
2. Through absorbents which are united with veins in the mesenteric glands.
3. Through the roots of the vena portæ.

Those substances which are conveyed into the sanguiferous system through the thoracic duct, as chyle, are mixed, in their passage through the mesenteric glands and the thoracic duct, with a reddish coagulating fluid, secreted from the arterial blood in these glands, and in the spleen, which brings the chyle to resemble blood. The substances, however, which are carried to the vena portæ are assimilated to the mass of the blood, by being mixed with venous blood, and by the change which they suffer in consequence of the secretion of the bile.

Our authors also remark, as the result of some of their experiments, that it is, in their opinion, very probable that those substances which are taken up by the absorbents from the surface of the mucous membranes of the lungs, of the urinary organs, and of the organs of generation, and by the absorbents on the outer surface of the body, and even from the parenchyme of the organs, pass into the mass of the blood, partly directly into veins in the lymphatic glands, partly, however, through the trunks of the absorbent system. The substances taken up by the absorbents are mixed, to promote assimilation with a fluid secreted from the arterial blood in the lymphatic glands, renal glands, and thyroid gland, in the same manner as the chyle receives a fluid secreted in the mesenteric glands, and in the spleen.

Our authors inform us that they are engaged in an experi-

mental inquiry into the changes which alimentary matters undergo in their formation into chyle, and in their passage through the lymphatic system, and how they are finally assimilated to the nature of blood. To the result of these experiments we look forward with anticipation of much instruction; for our authors, in the present work, have shown themselves to possess all the qualities required for success in such investigations.

We have postponed, to another opportunity, some very ingenious remarks on the use of the spleen, and on the secrete urinary passages.

Professor MAYER *on Absorption from the Lungs.*

As an appendix to the preceding article, we shall give the results of a series of very ingenious experiments made by Dr Mayer, Professor of Anatomy at Berne, on the injection of fluids into the trachea, which he conceived to be the easiest and best method of determining whether the veins possess the property of absorption, and whether other fluids than chyle enter into the circulating mass.

This experiment of injecting fluids into the trachea was tried by Dr Goodwin, and after him by Autenrieth and Schlaepfer,* but they took no notice of the absorption of the fluids thus injected into the lungs. The veterinary pupils at Lyons have also injected water into the lungs of horses, and have found that they can support a considerable quantity without inconvenience.

Professor Mayer read his Memoir at the Meeting of the Helvetic Society, held at Zurich, and we extract our notice from the Bibliotheque Universelle of Geneva,† a periodical work of great merit.

I have been engaged for many years in experiments, which prove the absorption from the lungs. In 1812, I published some of them.* Since that time, I have made 80 experiments more on the same subject; I performed analogous experiments on the absorption from the intestines, and I found that it is much less than from the lungs. I made these experiments on various animals, viz. on rabbits, dogs, cats, goats, hedge-hogs, &c. I performed them with different coloured fluids; with the infusion of turmeric, of rhubarb, of

* Dissertatio Inauguralis, sistens Experimenta de effectu liquidorum quorundam medicamentosorum ad vias aëriferas in corpus animale. Auctore Schlaepfer, Praes. Autenrieth, Tubingæ, 1816.

† Bibliotheque Universelle, Sciences et Arts, Tome VII. p. 51. 8vo. Geneve, 1818.

* Dissertatio sistens Experimenta quædam in Animalibus aqua Suffocatis *Instituta*, Tubing. 1812.

saffron, of indigo, of madder, &c. I frequently made use of a mixture of indigo, of saffron, and of water. Lastly, I employed solutions of the prussiate of potass, of nitre, of alum, of acetate of lead, muriate of iron, oxide of arsenic, oils, &c. &c.

The following are the summary results of these experiments:

1*st*, Animals support a considerable quantity of liquid injected into the lungs without experiencing mortal symptoms from them. Rabbits can support a dose of four ounces and half of water in 24 hours. But these injections should be performed by an opening made in the trachea; for if we inject these fluids by the larynx, they excite the most severe symptoms of suffocation, and the animal soon sinks under it. The suspension of respiration during this irritation of the muscles of the larynx by the injection is the only cause of death.

2*d*, The symptoms of suffocation which arise from injections are not serious when we inject pure water; but they become so when we take thick fluids, for example oil, which obstructs the aërial passages; or some chemical solutions, which, destroying the parenchyme of the lungs, prevent the oxydation of the blood, and produce extravasations of blood, and inflammation in the lobes of the lungs.

3*d*, The fluids and solutions injected into the lungs are absorbed, more or less quickly according to their nature, and their degree of concentration.

4*th*, This absorption is in general very great, but less in young and newly born animals than in adults.

5*th*, Absorption takes place by the pulmonary veins, for it has occurred in the space of three minutes; we find in the blood the fluids injected, before we perceive them in the chyle; we find them in the left auricle and ventricle of the heart, long before we can see the least trace of them in the right auricle. Lastly, absorption is carried on even although we tie the thoracic duct.

6*th*, Absorption is likewise performed by the lymphatic vessels, but more slowly.

7*th*, The veins of the stomach and intestines also absorb, but in much smaller quantities.

8*th*, We can demonstrate in the blood the existence of fluids absorbed by the veins. It is easy to discover there the prussiate of potass, the muriate of iron, arsenic, &c. We can trace the prussiate of potass injected into the lungs, first in the arterial blood of the heart and arteries, then, if we continue the injection, in the venous blood. The sulphate or the muriate of iron, mixed with the blood, produces a green or blue precipitate.

9*th*, We find these fluids in abundance in the urine in the bladder, and in that in the kidneys. The prussiate of potass can be discovered in it seven minutes after the injection.

10*th*, The prussiate of potass is likewise deposited, and even in considerable quantity in the serum of the pericardium, of the pleura, of the peritonæum; in the synovia, under the skin, and in the milk.

11*th*, When we have injected prussiate of potass, we can discover this substance after some hours, not only in the fluids, but also in many of the solids. Several of these parts then became green or blue with the muriate of iron, viz. the cellular tissue under the skin, and in the whole body, the fat, the serous and fibrous membranes. We can tinge, in green and in blue, by the solutions of iron, all the aponeuroses of the muscles, tendons, and the lateral and interior ligaments of articulations; for example, the circular ligament in the ileo-femoral articulation; the crucial ligaments in the femoro-tibial articulation. We find the other parts of the fibrous system in the same state, namely, the dura mater, the periosteum, and the pericardium, &c.

12*th*, The membranes of arteries and veins, even the valves of the heart can be entirely coloured blue. The mitral valve in the left ventricle alone becomes blue, when we do not continue the injection long enough.

13*th*, The parenchyme of the liver and spleen cannot be coloured blue, but sometimes the cellular tissue around their great vessels. The lungs, the heart, and the kidneys, can be coloured blue.

14*th*, The secretory glands, namely, the salivary gland, the pancreas, the mammæ, become blue.

15*th*, Neither the substance of the bones nor the marrow becomes blue.

16*th*, The substance of the muscles, and that of the nerves of the brain, and of the spinal marrow, do not change their colour, by soaking with the muriate of iron. These organs appear to exert a repulsive and exclusive force, on the contact of fluids foreign to their nutrition. We may conclude from this that the opinions of many physiologists, who say that poisons act mortally, when they are applied to parts of the nervous system, are not well founded, and are devoid of direct proofs.

17*th*, These experiments, which may throw some light on secretion, the reproduction and nourishment of bodies, have also taught me the passage of liquids from the mother to the fœtus. The experiments with the prussiate of potass succeeded very well. We can discover this substance in the water of the amnion, in that of chorion, and of the umbilical vesicle, in the liquid of the stomach, in many solid parts of the fœtus, for example, in the kidneys, in the stomach, &c. as also in the placenta. When we lay a fœtus, to the mother of which we have given prussiate of potass, into a mixture of the spirit of wine and muriate of iron, we perceive it become blue coloured. Thus we acquire the most certain proof of the passage of fluid from the mother to the fœtus, a proof that we have vainly sought for till now in the history of physiology. The fluids taken into the blood of the mother are deposited in the tissue of the placenta, and are thence absorbed by the veins of the fœtus.

PART III.

MEDICAL INTELLIGENCE.

Letter from Mr LIZARS, *containing the Dissection of the Case of Hydrocephalus Chronicus, in which the Ventricles were repeatedly punctured.* (No. 67, p. 243.)

DEAR SIR,—Little was I aware when I sent the sheet to press descriptive of the case of hydrocephalus chronicus, that my little patient was so soon to fall a victim to this terrible malady. Thus our best endeavours in our profession are too frequently frustrated. All my anxiety, my care, and fond anticipations, were in a moment crushed. There is one great consolation, however, that this case affords—a prospect of overcoming this desolating disease by operation, for the child did not fall a victim to the puncturing, as the case satisfactorily elucidates.

My last report, in the preceding number of the Journal, mentions, that the teething was a great source of irritation. On the day following this, as there appeared evident fluctuation within the brain, I repeated the puncture on the right side, and removed three ounces and a half of dark-coloured serum. This relieved her for a few hours, but afterwards the fits returned, and she seemed to suffer much from her mouth. In the evening I scarified her gums, and recommended the warm bath.

Next morning, after passing a very restless night, she was evidently worse; the epileptic fits recurred at shorter and shorter intervals. The gums were not so inflamed, but equally swollen. The bowels were sufficiently open. The warm bath was used several times always with temporary alleviation, but the fits gradually exhausted her, and about 3 o'clock P. M. she expired. Fortunately the parents consented to an examination of the head.

Dissection.

After the integuments were dissected back, the bones were found loose. The frontal separated from the parietal, and the former had its two portions removed from each other. The anterior fontanelle

was particularly large, extending between the two portions of the frontal bone and downwards on each side of the coronal suture. The posterior fontanelles were scarcely apparent.

The left half of the frontal bone was now removed, when the brain appeared a pellucid bag filled with water; the dura mater adhered so intimately to the bone, that it could not be left to protect the brain. This membrane was redder than usual, and, when torn from the bone, exhibited numerous bleeding points. The brain, or more correctly, the tunica arachnoidea, for the cerebral matter on this left side was obliterated, burst, and about two ounces of serum flowed out. The other half of the frontal bone was next removed, and the cerebral *pouch* then exposed. On this right side it was thicker, and some convolutions were apparent, but extremely small; the divisions were very shallow. On each side, a circular portion of the pouch was now removed from what was once the anterior lobes, and then were displayed two large cavities filled with serum, almost transparent. The fluid was carefully removed with a syringe, and into whatever side the instrument was inserted, the fluid on the opposite diminished, showing there was a free communication. The fluid amounted to three pounds.

The fluid had obliterated nearly the whole of the cerebrum, leaving merely a shell with the septum lucidum and a septum across the left hemisphere. The tentorium cerebelli was entire, and had tended to protect the cerebellum, which was perfectly sound. The foramen Monroianum was so large as to admit the finger. The foramen commune anterius was equally large, and brought at once into view the infundibulum and the third ventricle, the latter of which might be said still to exist in consequence of the commissura mollis being present. The foramen commune posterius was of equal magnitude.

The walls of this shell or pouch varied in thickness, from a line to the third of an inch. In the thickest parts, it consisted of three parallel strata: the external was the cineritious matter, of a pale colour, and in some degree diaphanous; the central or intermediate was the medullary substance, nearly of its usual colour and consistence; and the internal stratum, which lined the latter, was of a pale yellow colour, semidiaphanous, extremely tough, and resembled coagulable lymph; every trace of pia mater was gone. At the bottom of the cavities there were numerous red particles, apparently the colouring globules of the blood. The walls of the cavity were thinnest at the left side of the coronal suture and left side of the occipital bone. The septum lucidum was remarkably strong, thick, and tough, in consequence of the addition, on each side, of the stratum of coagulable lymph. There was no fifth ventricle. On the left side, or in the left lateral ventricle, there was a considerable septum of cerebral matter, extending across the middle of the cavity; it was a little posterior, but in a line with the coronal suture. It had the print of the trocar upon it, for it must have been this mass that the instrument had entered when I punctured on the 8th and 18th of February. Where I pierced on the other days was about a quarter of an inch in

thickness. There was no choroid plexus on either side, and the fornix was so diminished in breadth as merely to assist the septum lucidum.

This, with the other cases on record, shows, that, unless the operation is had recourse to early, there can be little chance of success; for the thickening of the pia mater,—or perhaps it would be more correct to call it a deposition of coagulable lymph, for the septum of cerebral matter in the left cavity was equally coated with it,—must prove an insuperable barrier to any increase of medullary substance.

The case of the patient afflicted with Neuralgia, on whom you witnessed me cut the osseous branch of the inferior maxillary nerve as it enters the ramus of the bone—the branch philosophically named by Soemmerring "*nervus mandibulo-labialis*," I have deferred communicating till next quarter, in order to observe whether he continues free of pain. The other day, I found him working in the fields, perfectly well. I trust it will be convenient for you to insert his case in the next number of your valuable Journal; and by so doing, you will much oblige, dear Sir, your very obedient servant,

JOHN LIZARS.

6, *George Street*, 13*th June* 1821.

Biographical Notice of the late Dr Bateman.

DIED, on the 9th of April, at Whitby in Yorkshire, in the 43d year of his age, THOMAS BATEMAN, M.D. late of Bloomsbury Square. The health of this excellent and lamented physician had long been in a declining state, and there had been for some time unhappily little prospect of any favourable result either from the resources of art, or the assiduous and affectionate attentions of his family. The failure of his bodily powers did not, however, impair the vigour of his mind, and his wonted cheerfulness continued unabated to the last, his religious principles supporting him under the expectation and approach of death. In recording his regretted illness and decease, it is impossible not to advert to the loss which his personal connections and society at large have thereby sustained. But, as a detailed biographical memoir will probably be given of him at some future period, it is sufficient at present to remark, that in his private life he was most exemplary, and, in the exercise of his profession, he upheld its dignity and usefulness by independent feeling, integrity of conduct, active benevolence, and extensive learning. Dr Bateman was, indeed, highly gifted for ministering to the sick; being acute and accurate in his observation of disease, and prompt and judicious in the treatment of it. His contributions to the medical literature of his country have been no less various than important, whilst the zeal and ability with which for many years he performed the arduous services of the Public Dispensary, as well as of the House of Recovery or Fever Hospital, were highly beneficial to those Institutions, and to the community. Of him then may it with truth be said, that, though removed from life at an early period, he has descended full of honour to the grave.

London, April 20, 1821.

Biographical Notice of the late Dr Robert Steuart, first Member of the Medical Board at Bombay. Extracted from a Bombay newspaper.

Died, at London, on the 4th November 1819, Robert Steuart, Esq. late first member of the Medical Board, and Mint Master at this presidency.

Mr Steuart was a younger son of the ancient and respectable family of the Steuarts of Ballechin in Perthshire. He had reached England on the first of the preceding month, after an absence of upwards of thirty years in India. He landed in good health, but caught his fatal illness during his short residence in London, where he was led to exert and expose himself rather imprudently, as well from his habitual impatience of temper, as from his eagerness to meet his wife and children, who were in France, and who had moved from the neighbourhood of Paris to Boulogne with the long cherished, but vain hope, of welcoming him on his landing in that country.

Few men have received from nature a more robust or powerful mind than Mr Steuart. In the extent and variety of his scientific attainment he was without a rival in this country, and perhaps had few equals in Europe. His habits of application were, however, far from regular. He had conquered the difficulties of science by vigorous application in the earlier part of his life; and when not occupied by his official duties, he spent much of the latter part of it in making astronomical observations, and in prosecuting at his ease such chemical experiments as accident suggested to him. It was chiefly when any difficulties occurred in the practical branches of chemistry or mechanical philosophy, in which case his assistance was uniformly applied for, that his great excellence and superiority were conspicuous. When so roused and excited, the intensity of his application, the compass of knowledge which he brought to bear on one point, the richness, ingenuity, and resources of his invention, were truly admirable. Placed in London or Paris, with his powers, and with his mind awake to the progress of discovery immediately around him, he would probably have ranked among the most active and successful promoters of science in his time. He required the constant stimulus of difficulty to excite him to exertion; for the prize, whatever it was, when once attained, was thrown aside and no longer valued or thought of. Yet it ought not to be forgotten, that the bold and decisive system of medicine so successfully adopted in this country, owed much to him and to his friend Dr Helenus Scott. When Sir James Mackintosh left India, Mr Steuart received a tribute to his talents very gratifying to his feelings, having been unanimously elected to succeed that eminent man as President of the Literary Society of Bombay. When at the head of the medical service in this establishment, he was distinguished by a most conscientious anxiety to do justice to all over whom he was placed; and to weigh with impartiality their reasonable claims and expectations,—not only the superior claims arising from distinguished merit, but the humbler though

equitable ones that rested on active zeal, and even mere length of service. In private life, a warmer hearted, more generous man, never existed. No selfish feeling had a place in his breast. He was ever ready to assist with his advice, his influence, and his purse, all whom he befriended. He was liberal,—he was lavish. Such a man might have his faults, and he had his faults, and great ones. But they rose from a spring near to that to which we owed some of his brightest virtues. They originated in the warmth of his temper and passions, and from a spirit which he had not been taught sufficiently to control, never from any thing low or selfish; and they are buried with him in his grave; but the remembrance of his high attainments, his frank and liberal patronage of merit wherever he found it, his bounty to the distressed, his kindly affections to all who had claims on his regard, his open hospitality, his warm and generous friendship, will long be remembered with feelings of melancholy regret, by those who enjoyed the honest flow of his rough but manly affection.

Biographical Notice of the late Dr Gregory.

Dr James Gregory, Professor of the Practice of Physic in the University of Edinburgh, died at Edinburgh on the 2d day of April, at the age of 68. He received the degree of M. D. from the University of Edinburgh in 1774, and published an Inaugural Dissertation, *De Morbis Coeli Mutatione Medendis.* In 1776 he was elected Professor of the Institutions of Medicine, on the resignation of Dr Alexander Monro Drummond, nominated about three years before, although, in the interval, Dr Duncan senior had discharged the duties of the Chair by the appointment of the Town Council, and had given general satisfaction. Dr Gregory published his *Conspectus Medicinae Theoreticae* in 1780, as the Text Book for his Lectures on the Institutes of Medicine. In 1790, Dr Gregory was elected Professor of the Practice of Physic, on the resignation of Dr Cullen, and some time afterwards he got to the head of Medical Practice in Edinburgh, and was consulted from all parts of the empire.

On the 6th of June last, Dr Home, previously Professor of the Materia Medica, was elected Professor of the Practice of Physic after a very keen contest, in which his competitors were Dr Thomson, Professor of Military Surgery, Dr Duncan junior, Joint Professor of the Institutes of Medicine, Dr Alison, Professor of Medical Jurisprudence, Dr Saunders, Dr Dewar, Lecturers on Medicine, Dr Abercrombie, Dr Kirby, and Dr Landale, all of Edinburgh; Dr Armstrong, Dr Ashburner, and Dr George Gregory, of London, and Dr Carson of Liverpool. Before the election, Dr Abercrombie, Dr Duncan, and Dr Thomson, withdrew from the contest, and Dr Home had 17 votes, Dr Alison 9, and Dr Saunders 1; the other 5 electors having either declined voting or being absent. Dr Thomson and Dr Alison have again started for the Theoretical Chair, on the presumption that Dr Duncan junior will be elected to the Materia Medica, now vacant.

VACCINATION.

Dr Jenner's Circular to the Medical Profession, pointing out the causes of those affections which have occasionally followed Vaccinia and Variola, known by the term Varioloids. Communicated under the author's authority by John Fosbroke, Esq.

PRESUMING that you are conversant with the practice of Vaccine Inoculation, according to the instructions which I have formerly published, and that you may have seen, in addition to my general observations, those which I have since made and promulgated, respecting the "Varieties and Modifications of the Vaccine Pustule, occasioned by an herpetic and other eruptive states of the skin," I take the liberty of requesting to be informed, whether the observations acquired in your own practice coincide with mine? That is to say, whether the Vaccine Vesicles, under these contingent circumstances, go through their course with the same regularity as when the skin is free from diseases of this description?

Secondly, Whether, on the other hand, such individuals are more liable to resist the legitimate action of Vaccine Lymph when inserted into the arm, than those who are free from such eruptive affections?

Thirdly, Whether you have met with cases of Small-Pox, or what has been termed the Varioloid Disease, after Vaccination; and if so, whether in such cases you ascertained those deviations at the time of Vaccination in the progress of the pustules on the arms, which I have described as liable to take place when the skin is affected with herpetic and other eruptions?

As you may not have the paper before you, to which I here allude, nor the short series which followed it, I will point out the periods of their publication, and where they are to be found. The first was published in the Medical and Physical Journal, No. 66, for August 1804, and gives an outline of the subject, of some extent. It points out the fact, that a single serous blotch upon the skin, existing during the progress of the Vaccine Vesicles on the arms, may occasion such irregularity and deviation from correctness, that Vaccination under such circumstances cannot be perfectly depended on.

I have found abrasions of the cuticle to produce the same effect; such, for example, as we find in the nurseries of the opulent, as well as the cottages of the poor, behind the ears, and upon many other parts where the cuticle is thin. Happily we find no irregularity in the Vaccine Vesicle in an uncontaminated skin; but we find it if the skin is beset with these herpetic blotches, or even simple serous oozings from an abraded cuticle. It is not to be considered as of less consequence when occupying a small space; a speck behind the ear which might be covered by a split pea, being capable of disordering the progress of the Vaccine Vesicle. Dandriffe may be considered as a malady of this class, the incrustation on the scalp being formed from excoriation beneath; and however slight, for there is every gradation between a thin scurfy layer of a dirt-looking substance, or even patches of this thin crust, and Tinea itself. However, fortunately for the safety of the Vaccine Practice, and fortunately too for the ease of the practitioner, all these affections of the skin may be removed with very little trouble.* Sore eyelids are also impediments to constitutional Vaccination.

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* The most effectual application which I know for subduing these cuticular diseases, that produces impediment, is the Unguentum Hydrargyri Nitratis, as much lowered with Unguentum Cetacei, or any other bland ointment, as the irritability of the subject may require. The Dandriffe demands a double process—the *first* consists in removing the incrustations, the *second* in subduing the oozing. There are skins that

The second paper relating to this subject was given by the late Dr Willan, in answer to the following interrogatory, addressed to me by himself:* "What are the changes produced in the vesicle, when a person is affected during Vaccination with the Shingles, the Vesicular Ringworm, or Impetigo?"

To this question I made a full, and, I believe, a satisfactory reply. Its purport will be shewn by quoting a few sentences from it. "To answer this question in its fullest extent, would lead me through a wide field of observation, which I mean to go over at a future time; but the following answer may probably convey to you as much information upon the subject as you may now require."—"Vaccination, under the circumstances you mention, usually produces a striking deviation from the perfect character of the Vaccine vesicle at some period or other of its progress, but more frequently in its early than in its declining stages; indeed, it is commonly perceptible in a day or two after inoculation. It would be difficult, perhaps impossible, without the aid of drawings, to give a correct description of the varieties which an herpetic state of the skin is capable of producing, from those trifling deviations which prove no impediment to the Vaccine security, up to that point of imperfection in the vesicle which affords no security at all. Perhaps I commit an error in saying "*no security at all*," for it strikes me, that the constitution loses its susceptibility of Small-Pox contagion, and its capability of producing the disease in its perfect and ordinary state, in proportion to the degree of perfection which the Vaccine vesicle has put on in its progress, and that the Small-Pox, taken subsequently, is modified accordingly.† When no deviation takes place in the ordinary course of the Vaccine vesicles, or when it is inconsiderable, the Herpetic blotches or vesicles, of whatever kind they may be, often assume (sometimes as early as the third or fourth day after the insertion of the Vaccine fluid) a new character, not unlike the Vaccine, and, keeping pace in their progress with the vesicles on the arm, die away with them, leaving the skin smooth."

These two papers comprehend, first, the simple fact of important deviations being produced by diseases in pre-occupation of the skin; and, secondly, a general account of the characters of these deviations, and their differing degrees of influence upon the Vaccine protection.

Some further observations were published by Dr Wilson Philip, M. D. of Worcester, in an appendix to his work on Febrile Diseases, who requested some information from me on this interesting subject. This letter goes more into detail than the former, though its purport is the same—namely, to guard the practitioner against the insidious influence of a diseased skin, when he vaccinates. It will be an object of future consideration, to enter more generally into the minutiæ of this subject; but a sketch like this does not afford scope for the completion of such a design. Let me advise every practitioner, not to confine his cautions, nor to narrow my meaning, to one class of eruptive affections only. In short, every disease of the skin, which may be called *serous*, or one that sends out a fluid capable of conversion into a scab, has the power of exerting this modifying and counteracting influence; and I have also seen purulent fluids exert a similar influence in producing deviations. If I was asked what were the other actual impediments to perfect vaccination, as a general answer I should say, that I scarcely know any other except spurious matter,‡ or

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will not well bear unctuous applications; the desiccative lotions may then be made use of two or three times a-day; such as those prepared with the sulphate of zinc or superacetate of lead, &c.

* It was published in the year 1806, in his Treatise on Vaccine Inoculation.

† Further observation has confirmed this opinion, and has also developed much other curious matter respecting the spontaneous blending of the herpetic with the vaccine fluid, through the medium of the constitution, when under the influence of Herpes.

‡ I am happy to see that these interruptions are now discovered in Germany, as

impediments too obvious to require my naming them here, such as deranging the Vaccine vesicle in its progress, by incautiously robbing it of its contents, or producing a new action by external violence.

Notice of a new Edition of the Greek Medical Classics; by Professor Kühn of Leipsic.

Some time ago, a prospectus was distributed by Dr Kühn, the learned professor of physiology and pathology in the University of Leipsic, announcing his intention of publishing, in succession, the whole of the works of the Greek Physicians which are still preserved, and soliciting subscriptions for the work. The first volume of this laborious undertaking has appeared since the commencement of the present year. Fortunately, the works of Galen, which few physicians in this country can boast the possession of, stand first in the order of publication. The volume before us, besides the preface, which notices the editor's intention and the difficulty of its execution, and the sources whence he has derived assistance, contains an extensive Historia Literaria of about 250 pages; in which is given a succinct account of the life, education, and general doctrines of Galen; a list of his very numerous writings, distinguishing those which are genuine from such as are doubtful or evidently spurious. The further contents of this volume are Galeni adhortatio ad artes addiscendas—De optima Doctrina Liber—Quod optimus medicus sit quoque philosophus—De sectis ad eos qui introducuntur—De optima secta ad Thrasybulum Liber—De constitutione artis medicæ ad Patrophilum Liber—Ars Medica—De Elementis ex Hippocrate, Liber. I. —— II.—De Temperamentis, Lib. I.—Lib. II. —— III.

The work is formed on the plan of the present Greek Classics, and may without disparagement be placed in the same rank. The upper half of the page contains the Greek Text, in a very neat clear type, without contractions, and on a good paper. The Latin translation stands beneath.—On the summit of each page is a continued reference to the Basil edition of the works of Galen; and to that of Ren. Chartier, published at Paris in 1679. The whole forms an handsome octavo volume, consisting of upwards of 900 pages. T. M. W.

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appears in Professor Hufeland's Journal for June 1819, an extract of which is given in the London Medical Repository, vol. xiv. p. 502.

In addition, see Bateman's Synopsis of Cutaneous Diseases, pp. 222, 223. Cross's History of the Variolous Epidemic at Norwich, 1820, pp. 60, *et seq.* 196, and 288. I was lately puzzled to find the cause of irregularity in a Vaccine vesicle, the skin being free from any apparent eruption; upon minute inquiry I discovered a whitlow on the thumb, in which suppuration had taken place.

*** In the excellent account of certain diseases lately prevailing in Alford, by Mr Murray, it should have been mentioned that the population of the district is about 2500.

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NOTICES TO CORRESPONDENTS.

Communications have been received from Drs Abercrombie, Fogo, Knox, Howiſon, Thomſon, and Page, and Meſſrs A. Coventry, D. Laing, J. Fosbroke, and T. M. W.

We have received the following publications for Review:

Bichat on the Anatomy and Phyſiology of the Mucous Membranes. Tranſlated by Joſeph Hamilton, Eſq. pp. 100. 8vo. London. Callow, 1821.

The Phyſician's Guide. By Adam Dods, M. D. pp. 320. 8vo. Worceſter, 1821.

Obſervations on ſome of the General Principles, and on the particular Nature and Treatment of the different ſpecies of Inflammation. By J. H. James, Surgeon to the Devon and Exeter Hoſpital. pp. 328. 8vo. London, 1821.

A Practical Eſſay on the Ringworm of the Scalp, Scabbed Head, and the other ſpecies of Porrigo. By Samuel Plumbe, Member of the R. C. Surg. Lond. and Med. Ch. Soc. pp. 104. 8vo. London, 1821.

Eſſays on the Female Economy—1. On the Periodical Diſcharge of the Human Female; 2. On a ſpecies of Abortion not heretofore deſcribed. By John Power, M. D. Phyſician-Accoucheur to the Weſtminſter Lying-in Inſtitution, &c. pp. 101. 8vo. London, 1821.

Callow's General Catalogue of Second-hand Medical Books, corrected to 1821. pp. 270.

The Hiſtory of the Plague, as it has lately appeared in the iſland of Malta, Gozo, Corfu, Cephalonia, &c.: detailing important Facts illuſtrative of the Specific Contagion of the Diſeaſe, with particulars of the means adopted for its eradication. By J. D. Tully, Eſq. Surgeon to the Forces. 8vo. London, 1821. pp. 292.

Obſervations on the Varioloid Diſeaſe, or on Smallpox under the form which it preſents in perſons previouſly vaccinated, illuſtrated by Caſes and Experiments; publiſhed with a view to a true eſtimate of the value of Vaccination. By William Stoker, M. D. &c. 8vo. Dublin, 1821. pp. 68.

A Practical Treatiſe on the Inflammatory, Organic, and Sympathetic Diſeaſes of the Heart; alſo on Malformations of the Heart, Aneuriſm of the Aorta, Pulſation in Epigaſtrio, &c. &c. By Henry Reeder, M. D. 8vo. London, 1821. pp. 276.

The Accoucheur's Vade-Mecum. By Joſeph Hopkins, M. D. 2 vols. 12mo. London, 1821. pp. 232 & 230.

A Series of Queſtions and Anſwers, for the uſe of Gentlemen preparing for their Examination at Apothecaries' Hall; with copious and uſeful Tables annexed. By Charles Mingay Syder, Licentiate of the Honourable Society of Apothecaries. 12mo. London, 1821. pp. 128.

Remarks on the Epidemic Yellow Fever, which has appeared at intervals on the north coaſts of Spain ſince the year 1800. By Robert Jackſon, M. D. 8vo. London, 1821. pp. 207.

The Principles of Forenſic Medicine, ſyſtematically arranged and applied to Britiſh Practice. By John Gordon Smith, M. D. 8vo. London, 1821. pp. 503.

The American Edition of the Edinburgh New Diſpenſatory, by Andrew Duncan, Junior, M. D., enlarged, and adapted to the Materia Medica of the United States. By Jacob Dyckman, M. D. &c. &c. 8vo. New-York, 1818. pp. 798.

A Treatiſe on the Diſeaſes of Negroes, as they occur in the Iſland of Jamaica, with Obſervations on the Country Remedies. By James Thomſon, M. D. 8vo. Jamaica, 1820. pp. 168.

Nouvelles Recherches ſur les effets de l'iode et ſur les Precautions à ſuivre dans le Traitement du Goitre par ce nouveau remède. Par Coindet, M. D. 8vo. Geneva.

Notices ſur l'Adminiſtration de l'iode par Frictions et de l'Application de ce Medicament dans les Scrophules et quelques Maladies du Syſteme lymphatique. Par Coindet, M. D. 8vo. Geneva.

Ablaſs im Jahre 1817; nebst Deutung der Null. verfaſst durch Johann. Chriſtian Goldbeck, M. D. 4to. Altona.

THE

EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

1. OCTOBER 1821.

PART I.

ORIGINAL COMMUNICATIONS.

I.

The Influence of Chemical Laws on the Phenomena of Physiology. By HENRY DEWAR, M. D. F. R. S. E. Fellow of the Royal College of Physicians of Edinburgh, and Lecturer on the Institutions of Medicine.

AMONG the controversies which have subsisted in the philosophical world on the distinguishing phenomena of living beings, one which has been sometimes keenly agitated is, Whether or not they depend entirely on the chemical laws of matter? This question, however, is reducible to a mere verbal warfare. If it is closely followed up, the only point remaining in the end for difference of opinion will be, "How far ought the meaning of the term Chemistry to be extended?" Those who have speculated on this subject have too often lost sight of the extensively varied nature of the objects comprehended in it, and have conferred on it a spurious simplicity, by affecting to consider every scientific purpose as accomplished when all the laws concerned in it are reduced under general denominations—such as, impulse, action, stimulus, excitement, or chemical operation. It is when we enter into the rich variety of the phenomena, and examine both the resemblances and the differences which are to be found among them, that our minds make real accessions of knowledge. The expanded views thus obtained powerfully repress those sweeping theories which tend to impart a meanness to the surface of the creation, by accommodating it to the narrowness of the human powers.

No set of phenomena in the physical world claims so great an interest as those of life. It is chiefly from a relation to these that other objects derive their interest.—The intention of the present paper is to suggest some considerations, in answer to the following inquiries respecting the laws of life.

What is the leading difference which the phenomena of life present, from others which all agree in denominating chemical?

In what degree is life illustrated by its chemical agency on foreign matters, and the chemical effects which it leaves behind it?

What illustration do the laws of life receive from the influence which chemical agents, acting from without, exert in modifying its phenomena? And, finally,

How far may the views thus afforded regulate our practical exertions, in employing the resources of art for influencing the phenomena of life, by correcting its deviations from a healthy condition?

A living body is a congeries of matter, the particles of which, like many of those which are dead and inorganized, exert certain mutual actions, by which they produce certain results, issuing in modifications of the properties of congeries; and these vary according to external circumstances.

But living bodies exhibit results wholly different from others. The materials of which they consist are not indeed in the least degree withdrawn from the influence of the mechanical and chemical laws which belong to other matter. But new laws are superadded, by which the effects of these common laws are in the most important manner changed. Some have shown a wish to represent the powers of life as consisting, not in the superadding of any new laws to those otherwise belonging to the materials of the fabric, but in the formation of a peculiar arrangement of those laws to which the particles of matter, under all circumstances, are subjected. For some such reason as this, it has been a favourite maxim with some ingenious theorists, that "life is a forced state." Such an expression, however, is more poetical than just. It exhibits the subject in one partial attitude, and affords no leading character of the phenomena fitted to impart precision to our views. There are forces which support life, and there are forces which tend to destroy it. But both kinds of forces are equally natural, and operate with equal freedom and spontaneity.

The great character which distinguishes the laws and powers of life (as embracing both the vegetable and the animal world) from those of inorganized matter, is, that the former have always a separate origin. However intimately connected with the body

in which they reside during the living state, they are independent of any *particular mass* of matter. That congeries of phenomena which distinguishes any living individual is gradually transferable to a portion of matter wholly different. There are no particles of matter to which life is necessarily attached. The introduction of vegetation or of animation is independent of all the other operations of matter. It brings into contact with them a separate set of laws; and the continuance of the phenomena requires to be kept up by an influence emanating from a living being already existing.

The origin of living bodies, or of that chain of impulses on which the existence and perpetuity of each species depend, is to us unknown, and leads the mind more directly to the suggestion of *creation* than any other feature of the world. Even those who, on a cursory view of inorganized nature, might be disposed to embrace the belief of the eternity of the world, must become embarrassed when they attempt to trace the origin of organized bodies, particularly when they find that the species now existing are so different from those which organic remains found in the strata of the earth show to have existed in some previous states of our globe. This fact indicates that there must have been a successive introduction of new species of beings, perfectly corresponding to all the ideas which can be formed of a series of creations.

The doctrine which maintains the existence of a distinct living principle in each organized individual, as the cause of all the phenomena of life, has been censured by some as an unnecessary hypothesis. But the censure will lose its force when we consider the fact, that no portion of matter can become the seat of life, without being introduced within the influence of a train of previous living operations. It must also be granted that the living principle is essentially different in the different species, as each commands a train of appropriate phenomena.

Keeping in view this consideration, which will preserve us from attaching grovelling conceptions to any department of the subject, we can proceed with greater satisfaction in taking a near survey of the characters which bring living operations into contact with the laws of chemistry.

The first observation to which I would direct the attention of the Society * on this subject, is, that "the operations of life resemble those of chemistry in their minuteness." When an animal receives an impulse from any surrounding object, and, in consequence of this impulse, is made to feel and act in a particu-

* This Paper was read before the Royal Society of Edinburgh.

lar manner, the first impulse and the ultimate results are palpable phenomena; and, viewing them in a general way, and with a careless eye, we might be induced to rank them among those of a mechanical kind, or at most to admit, along with mechanical agency, the interference of a sentient principle, to which this carelessness might attach an equally gross generality. But, when we examine the organs concerned in the reception, transmission, and modification of the impulse in its successive stages, we shall be led to acknowledge a more recondite set of operations. The nervous system is more concerned in sensation and the production of action, than any other continuous texture belonging to the corporeal frame. We must acknowledge, that some change is rapidly transmitted through this system. We cannot allow it to be a mere inert conductor, which, without undergoing any modification in itself, is the arbitrary seat of operations depending on a different principle. We are bound to view it as an *appropriate* organ. Its appropriate nature must arise from its intimate constitution. None of its other properties arising from that constitution show us *how* it is appropriate. It is, in this respect, recondite. While the functions of it are carried on, they must depend on some mutual action among its parts. We are not accustomed to call this a chemical action, because no chemical change arises from it sufficiently obvious and permanent to be perceptible. But we ought never to forget that there must be a transmission of rapid successive changes, which form a long intermediate chain, connecting certain known causes with certain remote effects; not remote in point of time, but in the number of intervening agencies which are concerned. These, like chemical agencies, are extremely minute; they are strictly corpuscular; operating at insensible distances, and numerous within a short compass. As chemical actions change the qualities of bodies, so these fugacious living actions generate peculiar effects. The operation of the nervous system on the other parts of the fabric, and the operation of these parts on one another, must evidently be considered in the same light. These operations differ from others of a chemical kind, only as chemical operations differ from one another. It is not easy to pronounce which set of them is comparatively the most minute; but the general aspect of the subject, as well as some considerations which will be soon suggested, will probably lead us to the conclusion, that the operations of life exceed, in minuteness, all those of inorganized matter. They either take place between more minute parts, or depend on certain reciprocal aspects of the particles which are more delicate to fix; and require, for this purpose, the presence of the living principle. The great variety of effects resulting from these transmitted changes, depending on

the variety of external agency, of internal condition of the same individual, and, still more, as exemplified in the diversities of living species, serves to impress us deeply with the delicacy of these operations.

The relation of living action to chemical laws appears more close, when we advert to "the acknowledged chemical effects to which life gives rise," consisting in the permanent chemical changes produced on dead matter by the nutrition of the organs, and by the function of secretion. The chemical nature of these changes cannot be denied. Certain foreign particles are brought into contact with the organized body. Some substances, pulverized or dissolved, are applied in the soil to the roots of plants. Other substances are applied to the internal surface of the alimentary canal in animals, and in man. Portions selected from these are transmitted by an aqueous vehicle through the whole body, where they become constituent parts of the living organs. The texture of the organs thus formed widely differs from the pre-existing state of the matter applied, and from any that can be obtained by agencies of other kinds. The same observations apply exactly to the secretions. The animal economy has, on this account, been called a chemical laboratory. To maintain that it is nothing else than a laboratory of this kind, would be extremely absurd; but that it is this in the fullest and highest sense, is an indubitable truth; and its chemical productions are of the most exquisite description. It is no doubt an interesting inquiry, "How is secretion conducted?" Some have conceived that the question was sufficiently answered by ascribing it to "the action of the vessels;" and pronouncing that action to be different in the different secreting organs. In the use made of this mode of expression, however, the action concerned in secretion seems to have been confounded with the action which physiologists have ascribed to the vessels in propelling the contained fluids. They seem to have imagined that the shape of the undulations, or vermicular motions performed by the parietes of the tubes, impressed the peculiar character on the liquid before it issued from the orifice. Secretion was thus regarded as depending entirely on the mode in which this change of place was conducted. But, when we consider the effect produced, it is too delicate, and enters too minutely into the constitution of the matter concerned, to be explained by a set of impulses comparatively so gross. It must depend on agencies exerted by the intimate molecules of the organs on the matter placed in contact with them, an action resulting from a previous state of mutual habitudes of a chemica

nature existing among them, possessed of a minuteness which removes them from any necessary association with the origin of the general impulse by which a palpable change of place is effected. Whether the motion of the fluids in vegetables and animals is derived from capillary attraction, from incessant contractions performed by the vessels, or from contractions performed by the surrounding parenchyma, or by a heart which commands a circle of perpetual distribution and return,—the action of secretion, as well as that of assimilation, must be of a finer kind, wholly independent of it; and, though less known to us in the minutiæ of its laws, more interesting from the peculiarity of its effects, and showing a corresponding peculiarity in its nature.

One more particular inquiry might be moved on this subject: "Whether does the action of the secreting organs merely bring the materials into such a state that they unite, in a certain appropriate manner, by laws originally their own? Or, does this action unite them in a peculiar manner by its own energies?" If the former hypothesis be maintained, that it merely brings them into mutual contact in such a manner as to allow peculiar nice laws of the matter itself to operate, the peculiarity of the action by which such a purpose is accomplished must still be granted to be entire; as the relative aspects which are produced, and which are necessary to the ultimate effect, cannot be obtained by any other means. But we have one set of facts which conducts us a step farther in our conclusions. This is found in the phenomena of contagious diseases. Contagious matter is secreted by peculiar actions. It cannot be considered as animated. It is merely a peculiar chemical compound, and to its chemical composition it owes all its activity. When first attended to, it appears a very singular fact that this matter, coming in contact with another living being, should generate the same set of actions, and the same chain of operations to which it owed its existence. This fact shows, however, that the actions of the system, in forming that matter, do not consist of simply bringing certain molecules into that relative attitude which enables them to coalesce in a particular form (living action thus meeting chemical operation); but it decidedly proves, that the organs give, by their living activity, the *finishing hand* to the compound which they evolve. This compound *must* have the stamp of the living action impressed on it, when we find it prepared to excite the same action in its turn. It proves that living action strictly *implies* chemical changes of diversified kinds, each kind definite in itself; and that these changes do not merely exist at the extremities of the assimilating and secreting apparatus, but extend through the whole range of the living economy.

The great variety of products evolved by the operations of organized bodies gives a wide extent to the boundaries of *chemical* science. It may also be remarked, that it affects in an interesting manner one part of the theory of chemistry,—the doctrine of definite proportions in chemical combination. One of the most beautiful discoveries that have been made in the modern progress of chemistry is, that all the simple elementary substances have certain relative combining weights; that is, certain proportions by weight, in which, or in multiples of which, they unite with one another, and that these relative proportions admit of being expressed by numbers. When the relative numbers are found which express the proportional weights in which a plurality of simple bodies respectively combine with any one body, the same numbers also express their relative weights in combining with one another. These regular effects are believed to arise from differences in the weights of certain molecules of the different simple bodies, when they have reached a particular stage of minuteness,—a stage at which, if they are not strictly indivisible, they are much more difficult of division than larger portions. These molecules are called chemical atoms. Experimental analysis has reduced all bodies to 48 simple principles (including the most rare); and it is from the variety of the proportions and modes in which they are united, that the varieties of compounds, including vegetable and animal products, arise. Some of the compounds which are formed are more close and more difficult of subversion than others. Those which are persistent under the most numerous agencies of external bodies, and under the widest range of temperature, are accounted the closest and strongest. The compounds formed by vegetable and animal life are, generally speaking, least persistent, and therefore are reckoned the weakest; although in this particular they are greatly diversified among themselves. This, we have every reason to believe, arises from a complication in the proportions in which they are made to unite. The firmness of the constitution of a compound commonly depends on the simplicity of its composition. A binary compound, consisting of one proportion or atom of each of its elementary principles, is stronger than a compound consisting of a different proportion. The protoxide of manganese, consisting of one proportion of oxygen to one of the metal, is more difficult of decomposition than the oxides which contain a double or triple proportion of oxygen. Another source of complication is found in the number of elementary bodies which, on any occasion, enter into union. This is not great in the case of organic compounds. Only three are essential to vegetables; oxygen, hydrogen, and

carbon; and these three, together with azote, to animals. Yet the compounds resulting from the combination of these four are innumerable. They are almost commensurate with the numbers of the species, multiplied by the kinds of fabric and of product which each species developes. Even when we deduct those substances in which simple bodies different from the four now mentioned are present, the number continues enormous. The gums, resins, and other juices of different vegetables, are all different in their sensible, and, consequently, in their chemical properties. The gelatine, albumen, and oil afforded by different animals, present differences in tenacity, in coagulating or liquefying temperature, and other particulars; showing that, however nearly they approximate, they possess essential differences of constitution. The numerous instances to which this remark applies must depend on a corresponding variety of constitution; and that variety implies great complication, or at least great delicacy. The delicacy may arise from the proportions being very peculiarly adjusted, or from some difference in the mutual distance of the ultimate constituents, or the peculiar attitudes in which they are respectively placed, and which are foreign to their tendencies when the phenomena of life have not intervened: Or, it may arise from the various forms of accumulated binary combinations, which present, in their result, proportions of the elements deviating far from binary, ternary, quaternary, or others which fall under ready calculation. These operations may be illustrated in the following manner.

One atom of carbon may combine with *one* of hydrogen.

Another atom of carbon may combine with *two* of hydrogen.

The two binary compounds thus formed may unite, so as to form one more complicated, which, when reduced to its elements, gives *two* of carbon and *three* of hydrogen.

Oxygen and azote may form similar varieties of combinations with these principles, and with one another. They may also combine with compounds differently proportioned, and previously more complicated;—and these complicated compounds may combine with one another.

The superposition of compound on compound may proceed to any extent. The ultimate size of the atoms being too small for us to ascertain, we know not how many superpositions of this kind they are liable to undergo in order to form the smallest assignable portion of any vegetable or animal compound whatever.

Even when the proportions that are found out by chemical analysis are nearly in correspondence with the relations of the combining weights of the elements to one another, or to their

multiples, the body may be complicated in its composition. One series of superposed combinations may tend to remove the quantities of the elements farther from their original proportions, while another may tend to bring them back to these proportions. The structure of the body is not thus rendered less complicated in the end, but more so, notwithstanding the apparent simplicity of the results afforded by the destructive analysis.

On this account, the doctrine of definite proportions is difficult in its application to organic products; and we can entertain little hope that chemical analysis will admit of such improvement as to afford details commensurate with the great diversity of chemical properties displayed. The chemical agency of living bodies exerted in all these cases shows that life involves in its nature a series of changes which have a claim to be ranked by the side of those of Chemistry.

The relation of living functions to chemical operation receives farther illustration from "the chemical influence which external agents exert in modifying the phenomena of life."

We have not many well ascertained instances of substances producing extensive effects over the body, corresponding to their chemical properties as otherwise known. Oil of turpentine, asparagus, and some others, when received into the stomach, affect the sensible properties of the secretion of the kidneys; a result which evidently depends on the transmission of the substances themselves through the excretory organs without complete alteration. In like manner, we have been lately informed that, in a short time after alcohol has been received into the stomach, a portion of it can be obtained from the blood by distillation.

Concentrated acids and other strong chemical corrosives destroy the texture of any living organs to which they are applied.

Few substances applied either to the skin or to the stomach, produce effects obviously analogous to what they do on dead matter, in full compatibility with the continuance of the living functions of the part. One marked instance of this we have, however, in the operation of vegetable astringents. These substances, which are known to harden the dead animal fibre, and which are applied so advantageously for this express purpose in tanning, produce a contraction of the mouths of living vessels, and a diminution of the volume of relaxed membranes. On this principle they are employed to check hemorrhagy from divided vessels, to moderate a discharge from corroded and lacerated surfaces, and to correct that state of the alimentary canal which is the proximate cause of diarrhœa.

Some reasoners on the Animal Economy, and in particular

the late Dr Murray in his Materia Medica under the head of Astringents, proceed on the supposition that the relations of active applications to the body are separate from all the other physical powers of the same substances. Hence they find great difficulty in explaining the action of astringents. During the prevalence of the theory of Boerhaave, in which the state of the simple fibre was regarded as of primary importance, and its living properties but little attended to, the coincidence between the agency of a body on the dead and that on the living solid was an exemplification and a confirmation of the prevailing doctrine. But, when the laws of life were studied as a separate subject, and the views of the Boerhaavian school were rejected, it was maintained that the properties of bodies which acted on the system were originally conformable to the laws of life; and such terms as stimulus, in other cases specific agency, were regarded as sufficient to explain them. By some, all specific agency was excluded, and different degrees of intensity and diffusibility of stimulant power were alone admitted. When a conformity was found to take place between the effects of astringents on the dead and on the living fibre, this fact came to be considered as a stumbling-block in the reformed theories of living action. A vital activity, somewhat circuitous in its operation, was now adduced to explain an effect produced on the living body, bearing a resemblance to that of the same substance on a dead body.

It ought never to be forgotten, however, that neither the matter of which a living body consists, nor foreign matter applied to it, loses its chemical properties when they come in contact. It belongs to us to observe whether the result of their mutual operation will be conformed to any that might be anticipated from the other powers of such substances, or from the same application made to a dead body, or will be the reverse, or will be altogether neutral in the aspect which it bears to these other energies. But this is a question which we have no right to answer in any other manner than by a rigid appeal to experiment.

In the case of astringents, the coincidence is sufficiently apparent; and there is not the slightest reason why we should refuse our assent to the proposition that their agency, in these two sets of cases, is precisely the same; that this is an instance in which the living state does not oppose an absolute obstacle to the efficiency of the previous chemical tendencies of the same bodies; and in which the chemical change produced brings after it a state of living action, which admits of ready explanation as the effect of its own chemical nature.

Instead of becoming in itself the subject of any difficulty, this fact should serve to suggest a more correct method of ex-

plaining the agency of all substances on the living body. Wherever there is no mechanical impulse, the agency of every substance ought to be regarded as primarily chemical, and the influence of inanimate matter on living action ought not to be admitted in any other acceptation. The ultimate effects of substances are various: but, whatever these are, they ought to be considered as the consequences of a chemical agency, which is, in the first instance, exerted by the substance on the fibres with which it comes originally into contact. It meets with a certain constitution of fibre, and also a state of corpuscular action among the constituent elements of the fibre, depending immediately on the living principle both for its origin and its continuance. This delicate state is affected by the chemical properties of the agent brought in contact with it. It is affected by each substance in its own manner. The remote consequences are sometimes of little moment; sometimes they are important and conspicuous. They consist, at one time, in an increase; at another, in a diminution; and, at others, in an essential change of the function. This change is liable to differences, both in kind and degree, at the surface first affected. It differs in the law by which it is diffused among the other organs, through their sympathizing activity. Sometimes the diffusion is more, and sometimes less extensive. Sometimes there is a diffusion of the *same* kind of effect; at other times there is a coeval production of effects different from one another in different parts of the body. These differences are without end, according to the substances applied, and the previous character and state of the organs. These observations apply to all the powers which therapeutical science employs.

No opinion betrays more grossly the spirit of superficial system, than the opposition which has been made by some modern writers to the admission of specific action. Every action exerted on the animal body is specific. Although the modification of living function produced by any application is not the first effect of the substance applied, it is an appropriate consequence of it. Differences in the feelings excited, in the actions generated, in the secretions formed, in the direction given to the changes of function—all indicate differences in the first chemical effect produced, and depending on the relative chemical powers of the substances applied. In most instances, those effects of external agents which particularly attract our attention, have no apparent coincidence with the known chemical agencies of the acting matter. The different cathartics, mineral and vegetable, would never, from any known chemical or physical property, have been considered as allied to one another, unless

they had been found to agree in their action on the alimentary canal. Here they come in contact with a body peculiarly situated. They are introduced into a laboratory, which is the seat of operations of the most delicate kind.

The practical consequences to be drawn from these views are of great importance, as they powerfully urge the necessity of observing with due patience, before we pronounce on the kind or degree of agency of any substance whatever. They teach us circumspection in studying the virtues of the Materia Medica, and preserve us from the precipitance of those who draw their conclusions before they see positive experimental evidence.

There are two modes of thinking which they show to be radically faulty, of each of which I shall take the liberty of stating an example. The first is that of rash general assertion respecting the powers of external agents; and the other that of unreasonable incredulity towards the accounts which other persons give of their experience.

As to the first, it has been maintained by many that the action of all positive applications is the same; and they have given to it the appellation of stimulant. They have conceived it impossible that a substance should *act*, otherwise than by giving an *impulse*; and they have conceived that this impulse must necessarily be followed by some sort of *quickening* of the living functions.

But let us consider, for a moment, the numerous adjustments requisite to the living body. Its functions depend on a definite internal constitution in all the organs, along with a definite set of external circumstances. We know that, if either the one or the other of these is altered beyond a measured extent, the phenomena of life are disturbed or extinguished. This definite constitution is affected, in some part of its surface, by the contact of a foreign body; but there is no general fact which entitles us to presume that an increase of living action must be the result. Let us suppose the simplest case: that one particle of the body applied combines with one of the living fibre. The effect of this may be, to detach that particle from some other particle in the same living fibre, or to diminish the closeness of their union. But that a detachment of this sort should fit it for greater action than it previously exerted, is altogether a gratuitous supposition. It is equally supposable that the former action will be diminished, or that it will be modified in a manner wholly independent of its degree of energy. Considering the fibre in another light, as having received an

accession to its animated materials by the combination of a particle of foreign matter, we have no right to pronounce, *à priori*, whether this foreign matter will operate as an incumbrance or the contrary. A foreign particle, in uniting with an atom of a living organ, will probably displace some other atom. Since the greater part of an animal organ generally consists of water, a foreign body combining with the solid materials of a fibre, will, if it does nothing else, displace a particle of water; and we have no *data* for predicting whether or not, by this exchange, the fibre will be fitted to act differently from what it did; and, if it is, we cannot predict in what the difference produced will consist.

If this consideration had been duly adverted to, some doctrines of the modern schools of physiology would have exhibited greater correctness and reserve, or their place would have been supplied by speculations widely different.

In the Brunonian doctrine, all positive applications were considered as stimuli. When reasons appeared for refusing acquiescence in some of its principles, powers of an opposite kind were admitted. These have formed the basis of a doctrine now prevalent in the north of Italy, which has been boastingly styled the New Italian doctrine. Certain substances are considered as primarily inducing a diminution in the activity of the functions. These are called *contrastimulants*; a term which seems to bear the same meaning with sedatives.

The agency of Digitalis has, in this point of view, been made the subject of dispute. Its power of producing a remarkable diminution in the celerity of the pulse has obtained for it a place in the list of contrastimulants with these Italian physicians. Others, imbued more deeply with the Brunonian theory, have exerted themselves in scrutinizing more minutely the changes consequent on the exhibition of this plant; and, having found that an early period of its influence was, in their experiments, accompanied by a *quickening* of the pulse which had been overlooked by others, they proclaim it to be a pure stimulant. The new doctrine, they say, is in this instance overturned; and the radical principles of the Brunonian system are confirmed. To trace with minuteness all the phenomena that occur either as the immediate or remote consequences of any application, is laudable. But to view one set of them as of greater importance than another, in a ratio altogether independent of their relative amount—to view the first as always the cause, and the only cause, of those that follow, however differently proportioned—is to sacrifice reason to hypothesis. The diminished rate of pulsation produced by digitalis is an evident and

a remarkable phenomenon; and reasonably claims much greater attention than the slight and fleeting acceleration of pulse which is said to precede it.

Wherever any facts suggest experiments for increasing our store of healing powers, they are usefully employed. But the conclusions drawn are often rash and pernicious. When it was found that digitalis lowered the pulse, it was natural enough to try its efficacy in dangerous disorders which were marked by an obstinately rapid circulation. This principle suggested the employment of it in pulmonary consumption. But it has been too often found, by experience, that a temporary change of the pulse is its only effect, the course of the disease being in no degree arrested. To persevere in it in obedience to an assumed principle under these circumstances, and to disregard the manifest disadvantages which it often brings along with it, is to deviate from the dictates of experience. Some, on the other hand, resolving to confide in its power as essentially stimulant, exhibit it on the principle of keeping up the powers of life at a stage of consumption at which they are supposed to languish. The pertinacity of this confidence sometimes betrays its blindness. It leads to a neglect of really powerful agents which a more enlarged plan of experiment might discover, and even to the neglect of agents already known which attentive practical study might subject to more successful management.

In numerous examples of this kind, inferences concerning the virtues of untried substances are precipitately drawn from a little that is previously known, but which that little does not warrant.

Another and not less frequent error is, that of putting a hasty negative on the alleged powers of various applications, in consequence of the want of a theoretic principle to which they are reducible, or their apparent repugnance to such theories as are entertained.

The reports given are discredited, merely because the substances concerned are not contained in a list of general powers from which such effects might be expected. Sometimes these substances are apparently inert; but it ought to be recollected that substances which are inert in one particular are often active in another. Substances which have no sensible taste exert a powerful operation on the stomach and intestines; and substances which have no sensible operation on these organs exert a conspicuous activity on other parts. Substances which have no sensible effect on a healthy frame exhibit a very different character when applied to one labouring under disease. Hence room is left for every sort of experiment that has not yet been

made; and our ears ought to be open to every report which is not in contradiction to the uniform dictates of experience.

We hear it too often replied to the fairest proposals of new therapeutical plans in difficult cases, "What good *can* such applications do?"

It is sometimes asserted, that "we cannot expect any substance to act specifically as an emmenagogue;" that "if any one improves the state of the uterus, it can only be by strengthening the general powers of the system." But any reason which could be assigned why there may not be mineral, vegetable, or animal matters, which will affect that organ in a definite manner in disease, would prove too much. It would prove, that none will particularly affect the stomach, the kidneys, the liver, or the secretions of the skin. Physicians of former ages may have been rash in pretending to have ascertained so many specific agencies in bodies. We know them to be wrong; because they have laid down their *data*, which are demonstrably fanciful. We therefore cannot rely on their authority. We must proceed deliberately to repeat their experiments, and remark the consequences; or to make different experiments of our own. But there is no reason why one specific effect may not be anticipated as well as another.

Guided by these principles, we shall not be unwilling to acknowledge many delicate agencies, which those who believe only in the efficacy of bodies evidently powerful, are disposed altogether to reject.

An example of this delicate agency appears in the peculiar manner in which the human body is affected by aqueous applications, when compared with the operation of mere temperature on a dry surface. No application of heat or of cold, through the medium of the air, has the same effect with the cold and the warm bath. The difference cannot be accounted for by any circumstances in the mode of communicating and abstracting caloric. The accompanying effect of the moisture gives to it a character altogether peculiar. This must arise from the chemical agency of the water on the cuticle, and probably also on the subjacent integuments. The state which it induces over so large an extent of surface diffuses, in the use of the cold bath, a peculiar freshness, and, in the warm bath, a peculiar calm pleasure through the whole body, internally as well as externally.

On the subject of Baths, some maintain that no difference can exist between the salt water and the fresh water bath; because any difference of cooling or of warming powers which may be supposed to take place is readily made up by a slight variation

of the temperature of that which is used. No appeals to facts will extort from them an acknowledgment that the saline impregnation can have any efficacy. As it is not a very acrid matter, as the external surface of the human body is endowed with little sensibility, and as no conscious sensation follows the partial application of this substance, they conclude, that all the ultimate benefit ascribed to it must be mere fancy. But a more minute attention to such facts as bear upon the subject will moderate this scepticism. Sea-salt makes an evident impression on the organs of taste. To these organs the cutis vera, though covered with a dense cuticle, is analogous. The cuticle imbibes moisture, and becomes relaxed by it. It also affords passage to substances dissolved in water, and thus gives them access to the sensible fibres of the skin. Perspired matter, and other sordes, allowed to accumulate and remain on the surface of the body, are well known to exercise a noxious influence. The morbid affections which arise from such causes may serve to show us that the skin is not insensible to apparently inert substances; that the influence imparted to it extends over the general functions of the living system; and that, therefore, we are not entitled to pass a sentence of inactivity on any external application. For these reasons the influence of saline and other impregnations contained in aqueous fluids upon the body, when applied to the skin, must be admitted as a general fact; and particular instances of its occurrence should be carefully studied.

On the same principles, we may occasionally adopt with advantage expedients which are employed by persons of the most ignorant and prejudiced characters. Wherever they are harmless, there is no reason for discountenancing a trial of them. We may thus acquire some information which those who act otherwise never can, although we find just ultimate reason for treating the greater part of such expedients as delusions.

It might be thought, on a general survey, that, if the principles now stated have no other practical influence than to inculcate the propriety of cautiousness in drawing our conclusions, they are unnecessary; because this maxim has been well understood ever since the promulgation of the philosophy of Bacon. But if this maxim has in practice been neglected, as it certainly has by many recent writers, the exposition of any leading physical fact tending to impress it more deeply in its application to the present subject, cannot be destitute of practical utility.

The chemical nature of the operation of the greater part of external agents on the system probably appears self-evident when once it is fully stated; but the statement is not superflu-

ous when for want of it delusive doctrines are in any quarter maintained.

The preceding considerations have not merely the effect of repressing forwardness in drawing our conclusions, but that of inspiring activity, because they do not discourage the hope of future discoveries; they forbid us equally to reject any practical expedient with haste, or to admit any with rashness; and it is allowed that an ample field is open for exertion, which those who are concerned in the subject cannot conscientiously neglect to cultivate.

A minute view of the general nature of the agency of external bodies on the animal economy has also the effect of introducing the mind to a more intimate familiarity with the laws of life, and thus imparting a greater interest to all the practical researches connected with it.

II.

Report of Cases treated at the Ophthalmic Hospital, Chatham, communicated to Professor Thomson. By ANDREW SMITH, M.D.

(Continued from No. LXVIII. p. 375.)

Ophthalmia with Granulated Lids. *—MORE than half of the patients who came under treatment, were affected with a greater or less degree of inflammation of the eyeballs, complicated with a granulated state of the lining of the lids. They had all been treated for a longer or shorter period, on account of the inflammation, in one or more hospitals, previous to their reaching Chatham; yet much still remained to be done, towards removing the cause which kept up the increased vascularity, and which, judging from the morbid appearances exhibited on admission, did not seem to have been much the subject of previous attention; or at least, if it had, the success of the treatment had not been such as was necessary for eradicating the disease.

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* In making use of the term Granulations, I do not thereby intend to assert that they absolutely are such, although, from having carefully watched their commencement, progress, &c. I am much inclined to consider them in that light.

The increased vascularity of the adnata and cornea, seemed at first view to be the principal affection; but, upon a more minute inspection of the eye and its appendages, the chief site of the complaint was discovered on the inner surface of the lids; and upon this the state of the eyeballs just alluded to was found to depend, as it disappeared in most of the cases in proportion as the lining membrane became smooth. The degree of inflammation varied very considerably; for in some, only a red vessel was observed here and there extending on the surface of the conjunctiva, or immediately under it; whilst in others they were so numerous and massed together, as to give the whole of the globe an uniform dark red appearance. In four of the number, however, in whom the lids were granulated, there was not the slightest affection of the eyeballs perceptible on admission, although it was afterwards found that inflammation was readily excited, by even the most trivial causes.

The corneæ in most, indeed I may say in all the cases, at least of any considerable standing, had suffered much from disease; they were not only very vascular, but frequently ulcerated more or less extensively, and almost invariably presented an abraded and opaque surface, according to the extent and density of which, vision was in a greater or less degree impaired; in fact, it may be said that many of the patients were admitted blind, as any rays of light which reached the retina were not more than merely sufficient, to enable them to distinguish day from night, and often not that with absolute certainty. The surface of the eyeballs in the majority of instances, presented a dull watery appearance, in some verging to a yellowish hue, which appeared to be occasioned by an effusion of a serous fluid, into the cellular texture connecting the conjunctiva and sclerotica.

Upon everting the lids and examining their inner surfaces, the upper always, and not unfrequently the lower, were found more or less thickly covered with small round bodies resembling granulations or warts, which, in part of the cases, were of a fleshy appearance and consistence; in others, of a hard pale cartilaginous description; and in a third class they were of a soft texture and dark colour, like clots of coagulated blood, and discharged that fluid copiously upon being slightly touched; even in some instances the motion of the lids alone caused considerable hemorrhage.

In a part of the patients, the granulations were dispersed generally over the whole of the inner surface of the lids, whilst in others they appeared confined principally to particular parts of them, such as the *extremities*, inner edges of the *tarsi*, &c. situations where, under any circumstances, they were always most

luxuriant, and from which they were invariably most difficult to remove. The first variety, or those which had the appearances of granulations seen on the surface of healthy sores, most readily yielded to treatment; that is to say, they were soonest entirely removed, and a cure effected. The second, or those of the cartilaginous description, were with much difficulty acted upon; indeed they seldom underwent any considerable decrease, till after numerous sharp applications of some one or other of the escharotics, to be afterwards mentioned; and the third class, or those which resembled coagulated blood, though readily destroyed, would often, in spite of every application, attain their original size in the course of *twenty-four* hours; which disposition to sudden regeneration rendered them occasionally the most difficult of the three species to treat successfully.

The motions of the lids, especially when the granular bodies were large, were often very much impeded; and in many instances the patients were unable to raise the upper sufficiently to expose the eyeballs, without the assistance of the fingers. This incapacity appeared to arise, partly from the impediment to motion offered by the rough granulated surface, and partly from a degree of *Ptosis*—the frequent sequel of an attack of acute ophthalmia, particularly where the motion of the lids happens, on account of the violence of the symptoms, to be for any considerable time much restrained. This defect generally disappeared as the cure advanced, although, now and then, it was found necessary to employ remedies, with a view of directly removing it, which will come to be noticed by and by. A greater or less œdematous swelling of the palpebræ was also another not unfrequent attendant on this disease, and no doubt had its share in producing the state just mentioned, as it frequently occurred in individuals affected with the complaint under consideration. Lachrymation and slight puriform discharge, which glued the edges of the lids together during the night, were symptoms for the most part present; though, in a few instances, the latter was not observed till after escharotics had been employed, a practice which was found invariably to increase it when it had previously existed, or to bring it on, when it had not appeared before.

The lower lids, though, as has been already remarked, much less frequently affected than the upper, were nevertheless occasionally found exhibiting the same diseased appearances, but producing much less irritation, in consequence of their more limited motions.

This state of the lining of the lids seemed, in the majority of instances, to have been the result of previous puriform or puru-

lent ophthalmia, although, in several cases, it succeeded to the common simple form of inflammation; and, in a few examples, neither of those varieties, or any other, could be traced to have pre-existed. The latter fact demonstrates to us, that the degree of that morbid action, which is absolutely necessary for the formation of such preternatural growths, is far from being considerable; and that it may sometimes exist in the lining of the lids, without the individual being aware of it, till, from some other cause, an aggravation of the symptoms be produced. From this circumstance, it appeared always advisable to evert the lids and examine their inner surface, when a patient, on admission, was found to have laboured for a considerable time under any of the forms of ophthalmia, or where the disease, though even of short standing, and mild, was attended by a sensation of something rough, like sand or gravel under the upper lids, particularly towards either of the extremities, and with slight mucous discharge; or where, though the last symptoms did not exist, the inflammation had come on very gradually, and without any evident cause.

The lower lid is in general easily everted, simply by applying the extremity of the fore or middle finger close to the edge of the *tarsus*, and gently depressing it, whilst the patient directs his eye to some object immediately over his head; but the eversion of the upper is usually with more difficulty effected. To accomplish it with most facility, the patient must be directed to look at his feet, and then the surgeon, with the thumb and fore finger of his right hand, should it be the right eye that is affected, must lay hold of the ciliæ of the upper lid, whilst, with his left hand, he applies a common silver probe a little above the upper edge of the tarsus, and by means of it makes a gentle pressure downwards and backwards; at the same time, through the medium of the ciliæ, carrying the border of the lid forwards and upwards, by which motion the desired effect will generally be produced. There are, however, cases frequently occurring, in which eversion cannot be thus readily accomplished, particularly in patients who have not perfect command over the *orbicularis and levator palpebrarum* muscles, or when the conjunctival lining is very much thickened. In such states it is often absolutely necessary to employ considerable force; in consequence of which, it will generally be advisable to lay hold of the edge of the tarsus in preference to the ciliæ, as the latter might be pulled out before the object in view could be completed. Force, however, it may be remarked, is always a bad expedient, and was never employed, till the more gentle means had proved ineffectual.

The practice of everting the lids ought always to be tried for a considerable time, in slight cases, previous to attempting it in the more severe forms of the disease, as a peculiar facility is acquired by habit, which does not admit of explanation, yet must be sufficiently evident to every individual who is in the way of seeing with what expedition and apparent ease a person accustomed to perform it will effect his purpose, after others, less conversant in the practice, had been either foiled, or found it necessary to employ no small degree of violence.

Treatment.—The treatment at first was directed, with a view of effecting the removal of every symptom of active disease, which being accomplished, the destruction of the granulations became the principal object of our attention. The former of these indications was effected by the employment of general and local blood-letting, purgatives, washes and drops; the latter, by the application of various escharotics, &c.

When the symptoms of inflammation were found to run high, or the constitution to sympathise much with the local disease, blood was abstracted from the arm; but where neither of those states existed, local blood-letting was, for the most part, preferred. Six or eight leeches were applied to the temples or eyelids on admission, and the bleeding was encouraged by warm fomentations; which means, should the symptoms not be found to give way sufficiently at first, were repeated next day; and during the intermediate period, as well as afterwards, the eyes were washed with a weak alum lotion, and the vinum opii dropt between the lids night and morning. By a steady continuance of this treatment, the disease was in general brought, in the course of a few days, to such a state as would admit of the most essential part of the practice being adopted; viz. the application of remedies suitable for destroying the granulations.

The method employed to effect this, as has been already mentioned, was the frequent application of escharotics to the inner surface of the lids; the chief of which were, the *nitras argenti*, *sulphas cupri*, and *acidum nitricum dilutum*. They were all applied to the same part, and with the same intention; namely, that of producing a more or less considerable slough, according to the nature and severity of the complaint. Sometimes one of them was employed in preference to the others, and sometimes all alternately, as no certain and fixed rules could be observed with respect to their use, for one of them was found to agree with one individual, which had just the reverse effect on another, where, upon the most minute examination, nothing but the strictest similarity of morbid appearances and

constitution appeared to exist. As illustrative of this, I may merely mention, that I have several times seen the application of sulphate of copper even mildly to the lids of a patient whose constitution was scrophulous, produce violent active disease, whilst the same individual bore a sharp touch of the nitrate of silver, not only without injury but with material advantage, and, *vice versa*, apparently under similar circumstances. It must however be added, that the sulphate of copper commonly produced less irritation than the nitrate of silver: But, to have done with such remarks, I shall proceed to describe the particular advantages and disadvantages of each, as far as could be learned from their use, in *one hundred and forty-two cases.*

Nitras Argenti.—This caustic was found to be most useful in cases where the granulations were either partial, or thinly scattered over the whole surface of the lid, as, to them, it could be applied with more ease and certainty, than either the blue stone or the diluted acid. In cases, also, in which there was a profuse lachrymation, and much tendency to active disease, the remedy under consideration was found to be a more safe and effectual application than either of the others; more particularly, however, than the sulphate of copper, as it did not require the same degree of friction and force that the latter did, in order to produce the same effect; neither was it found so apt to become detached and dissolved in the lachrymal fluid, and thereby act as a violent irritant to the eyeballs. It was also that of the three which was applied with most effect to those cartilaginous granulations which resembled the teeth of a file, as it produced an immediate effect; whilst the sulphate of copper could scarcely be made to act, on account of the dryness of the parts, and the acid produced but slight effect, from their hardness and insensibility.

Sulphas Cupri—This remedy was found best adapted for the destruction of those red fleshy granulations, upon which there was just sufficient moisture to effect the solution necessary to ensure the full extent of its escharotic qualities. Those, frequently, by two or three sharp applications, were entirely destroyed; and where the parts could bear it, a pretty hard friction no doubt tended to accelerate that process. As both of the above remedies are easily soluble in water, and as there is considerable chance of particles being detached by the rubbing, particularly of the last, it was found highly necessary to omit no precaution by which the eye could be freed from all possibility of suffering from any such unnecessary and severe stimulants. For this purpose, it was found of advantage to wash the

eyeball, and parts to which the remedy had been directly applied, with some simple or medicated fluid, immediately after the operation had been finished. Simple tepid water was, upon the whole, most generally employed, and, where due caution and attention were observed, certainly was found sufficient of itself, without any addition, to remove all the causes of irritation, so particularly to be dreaded. Lime-water was another fluid occasionally employed, and no doubt was at first suggested, on account of the chemical decomposition, and insoluble compound which is formed, by mixing solutions of the sulphate of copper and that earth together, thereby doing away with every thing like a chemical stimulant. As far, however, as my experience goes, I can safely affirm, that inflammation was equally frequent after the ablution with water containing lime, as after that with the same fluid in its simple state, when the same care and accuracy was bestowed on the process with each. Almond oil was also at times besmeared over the lid after the washing, as a still farther precaution; but it seldom if ever appeared, in my opinion, to be absolutely necessary, or productive of any benefit.

The mode in which the escharotics were applied, and the way in which one or other of the washes was used, I shall now proceed to describe to you. The patient was placed on a chair opposite a window, and the lid everted in the manner already directed; after which, if there was any mucous discharge lying on the granulated surface, it was cleared away, or if overrun by tears, they were dried up by a small piece of lint or sponge, and then the application of either of the caustics was made, according to circumstances. If the state of the disease called for the use of the argentum nitratum, a small portion of that substance, smooth, and gently rounded at the extremity, was fixed in a quill, or *porte crayon*, and applied to the granulated bodies; the effects of which were immediately evinced, by the formation of a dense white slough, and a sensation of burning in the parts to which its action extended, followed by a violent action of the orbicularis muscle, and a profuse discharge of tears. Where the granulations happened to be pretty close together, it was generally drawn gently along their surface; but where they were thinly scattered over the whole of the lining membrane, it was applied by touching those particular points, in consequence of which, many small sloughs, instead of an extensive one, were formed.

When the sulphate of copper, again, was the remedy made choice of, it was applied by rubbing the surface of the lids backwards and forwards, from one extremity to the other, with a

polished piece of that substance, fixed in the same way as the nitrate of silver. The friction was continued till a more or less opaque slough was formed, which required in some a much longer period than in others. When there occurred during the operation considerable hæmorrhage, or a profuse discharge of tears, it was found necessary to sponge the surface of the lid occasionally, for the purpose of drying it, as either the one or the other of those fluids was found to carry off the sulphate so rapidly, as to lessen very considerably its action on the diseased parts. After the desired slough was thus obtained, the lid was still kept everted, and its surface well washed with one or other of the fluids already mentioned. To accomplish the last intention, the lower lid, provided the treatment just described had been directed to the upper, was gently depressed by the finger of an assistant, so as to uncover as much of the eyeball as possible, and then the operator, with the hand not employed in keeping the lid everted, took his sponge well filled with one of the washes, and pressed it in such a situation as to make the fluid fall directly on the everted lid, from which part it became afterwards generally diffused over the surface of the globe of the eye, and latterly on the lower lid. By managing the washing in this way, so as to keep up for a short time a continued descending stream, all portions of nitrate of silver or sulphate of copper, which might have accidentally become detached, were now removed. The patient was then sent to his ward, with directions to bathe the eye for a longer or shorter period with tepid water, according to the severity of the pain or smarting induced by the action of the escharotic employed. The pain was found to vary in degree and duration, according to the remedy made use of, or the degree of severity with which it was applied, but it seldom lasted longer than a few minutes; and frequently, more especially when the nitrate of silver was used, it was merely momentary. In several cases, however, it returned again, after the lapse of an hour or two; but then, instead of being the immediate effect of the caustic substance applied, it was only one of the attendants of an active inflammation which now and then was found to supervene, upon the treatment just described, but which was, in every case, easily overcome by local blood-letting and warm fomentations, either with simple water, or some medicinal lotion.

In cases in which ulcerations or abrasions of the cornea existed, the sulphas cupri seemed often to be prejudicial, not only increasing both of those states, but also frequently inducing active inflammation, which probably arose from the action of a

portion of that substance suffering solution during its application to the diseased linings. In no case, however, did any thing serious occur, though, at the same time, I think sufficient injury was done in some, to warrant the rejection of that application under such circumstances, and to have recourse to either the nitras argenti or the diluted nitric acid; the mode of applying the last of which, and its peculiar advantages, I shall now proceed to describe.

The *nitric acid* was generally applied diluted with four parts of water, by means of a camel hair-pencil, and was found particularly well adapted for the destruction of the soft spongy granulations, as it possessed not only an escharotic, but also an astringent effect; and, by being applied in a state of perfect fluidity, it got better into contact with them than either of the others. When thus diluted, it possessed likewise the additional advantage of producing but a slight slough, which was seldom found to prevent its daily application; a quality essentially necessary for the remedy to be used in the treatment of this form of disease, in order to suppress the growth of such spongy formations.

It was also found very useful in the other varieties of granulations, after one of the more energetic applications had destroyed the principal part of the disease; and indeed, from what I have seen, I think it ought to be preferred in all cases where the granulations have either not attained any considerable size, or where they have been nearly removed by the lunar caustic or the blue vitriol, in consequence of the slight eschars which it produces being less apt to hurt the conjunctiva, than the more extensive ones occasioned by either of the two last mentioned escharotics. The facility and certainty with which it is applied, and the little, if any, mechanical irritation which is required, in order to insure its effects, are other conveniencies which it has to recommend it.

The same process of ablution was also practised after the employment of this acid, as after the other caustic substances, and conducted according to the plan already detailed.

An œdematous swelling of the lids was a frequent consequence of the use of all of the escharotics, yet more particularly of the sulphas cupri and nitras argenti; but it was found, in the majority of instances, to subside spontantaneously in the course of a few days. A slight soreness of the inner surface of the lids, particularly on motion, was experienced for a few days after each application; and also for nearly the same period, a slight increased redness of the surface of the eyeball was remarked, both of which, in almost every case, gradually abated without the use of any remedies.

The length of time required for the detachment of the slough, varied according to its extent and depth; but, for the most part, it happened between the second and fifth day, and was accompanied, as well as followed, by a considerable increase of puriform discharge. During that period, various drops were occasionally instilled on the surface of the lid previously everted, such as the solution of nitrate of silver, vinum opii, and liquor plumbi acetatis, with a view partly of acting on the disease, and partly of expediting the separation of the dead matter.

After the last object was effected, the solution of nitrate of silver was still continued, and the eye and lids were occasionally washed with a weak alum or sulphate of zinc lotion, which means usually, in the course of a few days, removed any soreness and increase of inflammation which might have been produced, and brought the parts into such a state as would safely admit of a repetition of the same remedy, or one of the others, according as it might be judged requisite. This mode of proceeding was steadily and firmly persevered in till all marks of the granulations were completely removed; and then, whatever other symptoms remained became the objects of treatment.

When the lid was everted and examined after the first eschar was thrown off, its surface was found to be very red, villous, and slightly ulcerated, with here and there small quantities of a puriform fluid, collected in any little depression which might have accidentally been formed, either during the progress of the disease, or by the action of the remedies employed for its cure. The same appearance was observed after each successive application, but always in a less degree, diminishing pretty nearly in the same ratio as the diseased substance, and only disappearing when it was entirely removed. The accomplishment of that object was marked by a great change, both in the feel and appearance of the inner surface of the lid, it being by that time quite smooth, firm, and generally of a pale colour, with here and there small red vessels distinctly ramifying and anastamosing in the substance of the lining membrane, or immediately under it; whilst the different motions of the palpebræ were performed with an ease and facility not for some time experienced.

Before the cure had thus far advanced, the vascularity of the eyeball and the nebulosity of the cornea, were both found, in the greater proportion of instances, to have decreased considerably, and the degree of vision to have increased; indeed, in many cases, the two first symptoms entirely vanished with the affection of the lids, without any particular treatment, although, in others again they continued, and demanded a distinct treatment.

In some the increased vascularity of the conjunctivæ and corneæ remained, whilst in others the nebulous state of the latter alone existed, but in both states the plan of treatment pursued was nearly the same, and consisted in the constant use of astringent and stimulating applications, such as the solut. argent. nitrat., vinum opii, liquor plumbi acet., tinct. aloes et myrrhæ, tinct. benz. comp., aut pulv. e aloe hyd. submur. et sacch. alb. composit., varied in strength according to circumstances.

The solution of nitrate of silver was one of the remedies which was most frequently employed, and was used sometimes at first in the proportion of two grains to an ounce of water; but, for the most part, it was soon increased to six grains, or even more, and dropt between the lids night and morning. It was found to answer best where there was a slight puriform discharge, or where excoriations or ulcerations of the lining membrane of the lids, or of the surface of the cornea, existed, or in cases where that tunic was affected with a slight general nebulosity, as in such forms of disease it often removed all the morbid appearances in a very short time.

The vinum opii was not found so generally useful in the chronic vascularity remaining after the removal of granulations, as in the passive stages of the simple ophthalmia, its action not appearing to be sufficiently active for the cure of the general run of cases. It was however found, in a few instances, after most of the other remedies had failed, to remove a troublesome relaxation of the tunica conjunctiva covering the eyeballs, which was now and then found to stand out, after the more considerable symptoms of disease had given way.

The liquor plumbi acetatis, either pure or diluted with water, was found to be a very useful remedy in the same form of disease as the vinum opii, and also where the relaxation extended to the lining of the lids, and was coexistent with a considerable degree of chronic inflammation and puriform discharge. It was found to prove very hurtful in all cases where either abrasions or slight ulcerations of the corneæ existed, as in them it produced a scale on their slough, * of the same extent as the loss of substance, which was never without very great difficulty removed; and in two or three cases that could not be effected.

Tinct. aloes et myrrhæ et tinct. benz. comp. were employed occasionally, more for the purpose of changing the action pro-

* My attention was first particularly directed to this occurrence by Staff-Surgeon Lindsey, whose acuteness of observation, zeal, and sound judgment, so well qualify him for the practice of that branch of the profession which he follows, with honour to himself, and great advantage to the British army.

duced by the liquor plumbi acet., than on account of any specific effects they were found to produce.

The compound of aloes, calomel and sugar, * was used in a great number of instances, and with very marked advantage, for many cases which had withstood one or all of the other remedies, yielded readily to its continued use. It was found of greatest utility in removing nebulosity of the cornea, although often it produced also much diminution of the vascularity of the eyeball; though, where the latter existed to any considerable degree, it was latterly but seldom employed, as it was found at times to increase it, and even give rise to an acute attack of inflammation. A general dimness, or even a circumscribed dense opacity of the cornea, remaining after the increased vascularity had been in a great measure removed, were the symptoms found to be most under its control, as they often suffered a very considerable diminution in the course of twenty-four hours after it was first used; and the patients expressed great astonishment at the sudden improvement of their vision.

Under such circumstances, when it was cautiously and regularly persevered in, it seldom failed to answer our utmost expectations. It was used by making a portion of it fall on the anterior part of the eyeball (the lids having been previously well opened), from a small piece of wood hollowed out like a spoon, or a cut quill, every morning, and allowing it to remain there under the palpebræ till washed away by the tears. When it did not occasion much pain, or after using it for some time, the patient was desired to shut the lids the moment it was applied, and keep them so for fifteen or twenty minutes, by which method its effects on the cornea were more certainly obtained. When this application was found to occasion too much action, it was weakened by adding an additional quantity of sugar, or, when too mild, it was rendered more energetic by increasing the proportion of calomel.

When a degree of *Ptosis*, or inability to raise the upper lid, was a sequel of the disease we have been describing, it was, in all the instances, readily removed by rubbing the integuments of the eyebrow and lid with a liniment composed of common oil and tincture of Spanish flies, in the proportion of an ounce of the former to half an ounce of the latter, two or three times a day, or by applying the common sulphuric æther to the same

* ℞ Hydrarg. submur. ʒv.
Aloes socot. ϑviij.
Sacch. albi. ʒij. M. ft. pulv.

parts night and morning. In conjunction with the foregoing treatment, blisters were occasionally applied either to the temples, nape of the neck, back of the ears or arms, and were found to be often of considerable advantage when they were kept discharging for some time.

The general remedies employed were similar to those already detailed under the head of Chronic Ophthalmia.

During the latter part of the treatment, the patients were allowed to walk freely about in the open air: indeed, the benefit which resulted from such exposure, when the weather was moderate, was often found to be so considerable, that it was laid down as a rule at the Establishment to send those patients out of hospital in whom the inflammatory part of the disease was nearly removed, but the nebulosity of the cornea continued, without suffering much change from treatment. This proceeding we seldom had occasion to regret, especially where steadiness and sobriety marked the conduct of individuals; but even under reverse circumstances, where the characters were of the most dissipated and debauched description, the corneæ were often found to clear rapidly, and the remains of chronic inflammation, which existed when they were discharged, to suffer a speedy removal.

In stating the latter circumstance, I by no means intend to say that such a mode of proceeding was not highly reprehensible, and frequently followed by severe and even fatal relapses; but I mention it merely to show, that the system pursued, and which was adopted from our experience of its utility, was, even under the most unfavourable circumstances, frequently followed by the most salutary effects. Dry weather, with a moderate degree of heat, and a slight breeze of wind, proved most beneficial; in fact, the coexistence of those three qualities appeared necessary, in order to ensure success, and consequently regulated in a great measure the periods of discharging; as, if they happened to be sent out in dull, rainy, or cloudy weather, they were nearly certain of returning with relapses; indeed, such occurrences could scarcely be guarded against, even in hospital, under similar circumstances.

This subject, viz. the influence which the weather has in producing, modifying, retarding or promoting the cure of diseases of the eye, has been hitherto too much neglected; and I am confident, from what I have seen myself, that such a train of inquiry could not fail to be of material consequence to the practical oculist; and might discover to him methods for diminishing the frequency of such complaints, the greater part of which, no doubt, derive their origin from particular states of the atmosphere.

Lippitudo.—Fourteen patients labouring under this disease were admitted into hospital. In four of them, it was complicated with a good deal of pain, and active inflammation of the eyeballs; but in the other ten, it was mild, and confined entirely to the tarsi, and lining of the lids. In nine of the number, the attack was of but recent occurrence; whilst, in the remaining five, it was of considerable standing, having existed, as far as could be ascertained in one of them, for fourteen months; in two, for three years; in one for four, and in the last, for nineteen years; and was said to have been the sequel of a previous attack of acute ophthalmia.

The general symptoms were, more or less extensive excoriations of the edges of the tarsi; increased redness and thickening of the palpebral lining, with mucous discharge, which glued the edges of the lids together during the night; slight soreness towards the commissures of the palpebræ, particularly experienced on motion; itching, and an occasional hot, burning sensation towards both canthi, when the eyes were, for any considerable time, without being washed; whilst the general appearance of the organs of vision themselves, indicated an unpleasant degree of weakness and uneasiness, more easily conceived than described.

The cures were simple, expeditious, and very effectual. In the four instances alluded to, which were accompanied by slight ophthalmia, and in one or two others where the redness of the lining of the lids was very considerably increased, a few leeches were applied to the upper part of the cheek or temple, and the eyes fomented for a day or two with a tepid Goulard lotion; after which, the solution of nitrate of silver, six grains to an ounce of water, was dropt between the lids twice a day, and the edges of the tarsi besmeared an hour afterwards with dilute citrine ointment, or one compounded of red precipitate, prussiate of iron, &c., * by means of a common camel hair-pencil.

If the latter was employed, which was generally done when the disease was either very indolent or found to be of long standing, as its effects were more stimulating than those of the other, it was allowed to remain half an hour, or even longer, in contact with the diseased parts, and then washed away by tepid water. By this time the inflammation of the parts to which it had been applied was generally pretty considerable; but that appearance, in all the cases, now vanished, where the remedy was not actually

* The exact strength has, at present, escaped my recollection; and as I have not the means of ascertaining it at this moment, I must refer you to my letter, which will soon follow this communication.

too strong. When the increased redness thus occasioned did not suffer a spontaneous renewal, it was judged a sufficient reason for weakening it considerably, if not for discontinuing it altogether.

When the dilute citrine ointment was preferred, it was generally allowed to remain in contact with the edges of the lids, till washed away by the lachrymal fluid. Whichever of the two was employed, it was found absolutely necessary to increase its strength after being used for some time, in order to ensure a progressive amendment.

In the cases where no marks of increased vascular action were exhibited on admission, the employment of the drops and ointments just described was commenced directly upon the patient being taken under treatment; and, by continuing them regularly, with proper attention to the bowels and personal cleanliness, the removal of the disease, in all the cases, was effected in a few days.

Psorophthalmia.—Of this disease four examples occurred, all of which were of a chronic description; in three both lids were affected, whilst, in the fourth, it was confined to the lower. In the first number, the edges of the tarsi, particularly the lower ones, were thickly studded with small ulcerated points of considerable depth, discharging a thick yellow unctuous matter, which, if not regularly washed away, soon concreted into small little scabs on their surface; and in the fourth, the disease, as has been already observed, was confined to the lower lid, but affected its whole internal surface, and was attended by such a degree of thickening, as to cause nearly a complete *ectropion*. The vascularity of the conjunctival lining was, in all the cases, much increased; and the patients complained of soreness and stiffness on moving the lids, which, in consequence of the dryness of the discharge, were found in general adhering together in the morning. In none of them were the eyeballs at all affected.

In the treatment of this complaint, various washes and ointments were tried on admission, but without any material advantage; for the only way in which it appeared possible to cure it, was by destroying effectually the diseased surface, by the application of some caustic. The nitrate of silver in substance was the one usually employed, and was applied by carrying its extremity along the whole ulcerated surface. After the slough thus formed was thrown off, a strong watery solution of the same substance was instilled night and morning between the lids, which, with the use of the ointment of prussiate of iron, as described under the head of Lippitudo, effectually removed all diseased appearances.

(To be continued.)

III.

Case of Hydrocephalus. By R. Hood, Surgeon, Ayton, Berwickshire.

In September last, being requested to visit Mr D——'s son, aged three weeks, I found him screaming violently, affected with febrile symptoms, and squinting. The application of the usual remedies did not alleviate his trouble; and, after the lapse of eight or ten days, his head appeared to be softer and larger than usual. The febrile symptoms and squinting gradually left him; but his head continued to increase in size. Diuretics were tried without benefit; and an attempt to repress the swelling by bandaging the head, brought on fits, which, however, left him on removing it; and his body now, from being very emaciated, gained flesh; he even appeared to be in tolerable health. In this state he contined several months; and, by the end of March, the bregma was found to be very large, reaching to the temporal bones at the sides, and superciliary ridges in front, in which space fluctuation was very perceptible. Conceiving that the child might be benefited by having the water removed, and no peculiar symptoms indicating any quantity of water to be lodged in the ventricles or within the brain, nor that viscus to be particularly diseased, tapping was proposed to the mother; at the same time explaining the extreme delicacy of the operation, and the dubious issue, should more water be found lodged within the brain, after that on the surface was drawn off. She consented to have it done, as the only means left of saving the child. Accordingly, on Monday the 9th of April, a puncture was made into the left side of the bregma with a small trocar, by which about ℥vi. of a limpid fluid run out. I stopped the flow two different times, for a short space; and the sides of the head were supported by Mr Landell, surgeon. The child cried during the operation; but no fainting or convulsions ensued. The head was next bandaged, after the manner represented in Heister's plates, for water of the head; and the mother directed to hold him, for some time, in the horizontal posture. The fluid was found to contain minute quantities of sulphuric and phosphoric acids, with a greater proportion of muriatic, all neutralized; likewise minute portions of lime and magnesia, with mucus and gelatine in abundance.

Tuesday 10th.—Vomited a short while after the operation

yesterday; started at times through the night; slept little; sucked as usual; pulse and heat natural; much wet has come from the wound, and continues to exude. Had a cathartic on Monday, which has operated. Head measures one and a half inch less than before the operation, when its circumference was 21½ inches.

Wednesday morning, 11th.—Has passed the night as well as ever he did in his life. Much wetness from wound.

10 o'clock, P. M.—Has taken a violent screaming. Pulse quick. Ordered to be bathed, grs. ii. ss. of calomel to be given, and the bandage to be removed.

3, P. M.—No better; ordered to be leeched.

Thursday, 12th.—Has passed a restless night. Pulse very quick; takes fits; pupils dilated. Medicine operated; ordered a blister to be applied to the nape of the neck.

2, P. M.—Blister has risen. He is seldom out of a fit; conconstant rolling of his eyes, but in unison. Pulse very quick, with irregular and convulsed breathing. Died at 9 o'clock at night.

Dissection.—The bones of the head were very soft, and readily cut with a knife. There were no traces of inflammation in the dura or pia mater, not even at the puncture, which had only pierced the former, and was still open. The surface of the brain appeared like a soft jelly swimming in water, and, when its proper tunics were cut, dropt over the sides of the head. A portion of the left hemisphere being swept away rather than cut, a transparent sac was discovered occupying the situation of the lateral ventricle, but including the anterior and posterior cornua only, the inferior containing another distinct sac of a similar fluid. The right hemisphere contained another sac that, when cut into, threw out a large quantity of a clear fluid, and was contained within the lateral ventricle of that side, communicating by large openings, through which the finger readily passed into the third and fourth. No water was found in the fissure of the septum lucidum, which was of a firmer consistence, as were most of the centrical parts of the brain. The nates and testes were converted into a hard tumour, which contained about a tea-spoonful of pus, not confined in any well defined sac, and apparently the product of recent inflammation. This I suspect to have been the cause of the child's death. The inferior parts of the cerebrum, and likewise the cerebellum, approached nearly to a healthy state. About a pound and a half of fluid was collected, and the sacs in which it was contained were of a smooth, firm, and tough structure; attached to the

cerebral mass at their under, but unconnected at their upper, surface.

By the operation, the water situated between the brain and dura mater only was drawn off; and it is evident, from the various sacs, how difficult it would have been to have punctured the whole, especially as neither their size, situation, nor even existence, could be accurately known previous to dissection. I have had several opportunities of examining the disease in sheep, known by the name of Sturdy, and find it very much resembles hydrocephalus in the human species. In one, where the water was drawn off by a trocar (the bone is rendered so thin immediately over the water as to be readily pierced), the sheep died in a few days; and when the brain was examined, it was discovered that the point of the trocar had injured the brain, and brought on inflammation of its meninges. In this, as well as some others which I examined after death, water was always found within the brain, and sometimes in sacs, forming indentations deep into its substance. Sufficient water may be on the surface of the brain to cause perceptible fluctuation, yet not enough to receive the point of the trocar beyond the canula; and the consequence is, the meninges of the brain, or the brain itself is injured; a circumstance which is certainly always to be avoided if possible. I should apprehend that the safest method is to make use of the scalpel, as in trepanning, and puncture the dura mater cautiously with a lancet, by which the water will be safely evacuated. Neither faintings nor convulsions have occurred at all in the recent cases, nor are they much to be dreaded, and may always be avoided by a proper degree of pressure: And the admission of air does not seem, from Mr Lizars's case, to be of any consequence. When water is lodged within the brain to any extent, (a fatal circumstance which I am afraid attends most cases of this disease), I consider the case as nearly hopeless; conceiving that, however much the upper portion of the brain may be meddled with now and then, injury done to the central parts produces terrible effects, if we may reason from the analogy of inflammatory attacks. The necessary collapse and distention of the sacs, should even the puncturing instrument avoid every vital part, would run mighty hazard of producing inflammation. In this case, we see almost the whole of the upper part of the brain disorganized, and a large collection within the viscus itself; but this had accumulated gradually, and its upper roof had as gradually yielded, so that circumstances remained much as they were; but no sooner do the corpora quadrigemina become affected, than the consequence is fatal to the child. Nutrition, assimi-

lation and perception, were carried on and excited with a lb. i ss. of fluid in the ventricles, over and above what was upon the surface; but most of the central parts were entire, until the tubercula quadrigemina was attacked, when death followed.

I have been induced to forward the above case for insertion in your valuable pages, chiefly with a view to the accumulation of facts necessary to the obtainment of the requisite knowledge of a disease hitherto so fatal.

IV.

Case of Transposition of the Abdominal Viscera, usually denominated Monstrosity, observed in a Child six weeks old. By William Campbell, M. D., Fellow of the Royal College of Surgeons, Edinburgh, and Lecturer on Midwifery, &c.

Dear Sir,—Should you deem the following account of this case of transposition of the abdominal viscera, with a drawing of the relative situation of the parts, worthy of a place in your valuable Journal, I shall feel much obliged by your inserting them. I am the more anxious that the case should be published, not only on account of the unusual appearances met with in dissection, but also from the length of time which the child continued to live under such circumstances. * My friend,

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* The occurrence of this case, as well as the probability of the child continuing to live under such unusual circumstances, having been called in question by some of the Profession in this city, I beg leave to cite the following cases to show, that similar examples have been repeatedly met with by others.

In the 22d Vol. Philosophical Transactions, a case is related by Sir Charles Holt, for the year 1701, which resembles the present in every particular, except that the infant lived for two months, and enjoyed the functions of both lungs. It always breathed with much difficulty, however; and when the hand was applied to the left side of the thorax, a creeping sensation or motion could be distinctly felt underneath, which was thought to be occasioned by the vermicular action of the intestines. In the 2d Volume of Dr Fothergill's Works, a similar case is detailed; but the change in the situation of the viscera was by no means so considerable. The child, which was a female, lived for ten months. There is a remarkable case of transposition of the thoracic and abdominal viscera related in the Philosophical Transactions for the year 1788, by Mathew Baillie, M. D. The subject of the case was a male, near 40 years of age, "brought for dissection, in the common way, to Windmill-street." In this case, the right lung was divided into two lobes only, while the left lung was divided into three lobes. On opening the pericardium, the

Mr Lizars, lecturer on anatomy and physiology, who opened the body, favoured me with the accompanying Drawing, which is a correct representation of the situation of the parts.

Mrs C., the mother of this extraordinary production, lives in the Grass-market, where, for the last fifteen years, she has, by persevering industry, gained her livelihood by carrying water up stairs to the better families residing in that quarter of the town. This woman remained single until she had attained her 41st year, when she married her present husband, who, by account, is two years younger than herself. She conceived soon after marriage, but aborted between the third and fourth month of gestation, in all probability from her laborious employment. She soon after conceived a second time, but was equally unfortunate, for she parted with the conception about the end of the fourth month. She very soon, however, became pregnant a third time, and was so fortunate as to carry forward the conception to the full time, when she was delivered, by a contemporary lecturer, of a

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apex of the heart was found to point to the right side, nearly opposite the sixth rib, and its cavities and vessels were completely transposed. There was also some irregularity in the disposition of the thoracic nerves. In the abdomen, the liver was situated in the left hypochondriac region,—the small lobe towards the right, and the great lobe in the left. The stomach and spleen were situated on the right side. The intestines and biliary ducts were likewise transposed, as well as some of the abdominal vessels. A case is related in the Medical Records and Researches, by Mr A. Cooper (now Sir A. Cooper), where a portion of the intestines was found in the cavity of the thorax. The subject of the case, a female, lived till she was upwards of 20 years of age. There are also some extraordinary cases of transposition related by foreign authors. In Morgagni Epist. Anatom. Medica, LIV, Sect. 11, a case is mentioned, on the authority of Leprotte, where a part of the colon was found in the thorax, passing through the diaphragm at its attachment with the ensiform cartilage;—the patient, a male, lived to an advanced age. Bartholinus and Clauderus both mention cases, where the stomach, omentum, pancreas, duodenum, and colon, were found in the left cavity of the thorax. In the Histoire de l'Academie Royale des Sciences for the year 1729, Vol. I, p. 14, Chauvet relates the case of a Lieutenant-colonel, where the stomach, spleen, and colon were found in the left thoracic cavity, passing through an opening with a cartilaginous margin to the left side of the spine; and the author, I think, very properly concludes, in consequence of the margin of this opening being cartilaginous, that the viscera must have been so transposed from the first formation of the individual. Riverius, in his Observat. Med. Cent. iv. Observ. 67. and Bonetus, in his 2d Vol. p. 103, both mention the case of a young man of 24 years of age, who had been prescribed an over-dose of some preparation of antimony by a quack, for the cure of intermittent fever. He died in consequence, and the stomach was found in the right side of the thorax. Vetter, a German author, relates, in his Aphorism. Patholog. Anat. p. 144, 145, the case of a healthy old man, where the whole small intestines passed immediately behind the cava, through a preternatural round hole, into the left cavity of the thorax, and *completely compressed* the lungs of that side. In the same work is recorded the case of a child six weeks old, where the whole left half of the diaphragm was wanting, and almost all the abdominal viscera had passed into the thorax.

still-born child, in January 1820. The fœtus, I presume, was destroyed during parturition, probably in consequence of having suffered the process to be too long protracted. When delivered at the above period, she was reputed to be upwards of 50 years of age; but, from her own statement, she is now only 43 years —although, to appearance, she has the constitution of a woman upwards of 50, for there is not a single tooth in her head. From the birth of the still-born fœtus just alluded to, until she again fell with child, nearly seven months elapsed; and she did not apply to me till she had been five months pregnant, which was in January last. During the whole of this pregnancy, she continued to make herself useful to her neighbours, by carrying water; and neither met with any hurt, nor any other occurrence, to which could be attributed the appearances that I am about to relate.

Early in the morning of May 29th, she fell in labour of this her fourth child, and was delivered about 3 in the afternoon by one of my assistants, Mr Rose, of a stout male infant. During labour, there was a copious discharge of the meconium, which made me apprehensive that the fœtus was weakly, or too long exposed to pressure; so that I felt somewhat anxious for the conclusion of the process, lest the poor woman might be equally unfortunate on this as on the last occasion. When the fœtus was expelled, it laboured under some slight degree of torpor, from which it very soon recovered. It was large, well formed, but had a dull inanimate appearance. It was always observed to be remarkably fretful, to become quite of a cerulean colour when it cried, and to retain the same dull inanimate aspect during life which was so conspicuous at birth. It sucked well, took spoon-meat readily, and swallowed with ease. It was never seen to vomit. It had regular passages by stool and urine, but not without frequent laxatives. The stools were sometimes greenish, but in general they were quite natural. It slept as well as infants usually do, but always breathed with great difficulty. This infant throve very little, and died on the 2d of July, labouring under partial convulsive fits for twelve hours previous to its decease.

DISSECTION.

For greater accuracy in recording this case, I requested that experienced anatomist, Mr Lizars, to pay particular attention to the situation of the viscera; and he has been so kind as to favour me with the following statement.

When the body was laid out for dissection, there was no in-

dication of any unusual formation; the abdomen only appeared a little flaccid. An incision was made from the top of the sternum to the symphysis pubis, cutting at once through the abdominal parieties; and a lateral one on each side, from the umbilicus to the lumbar regions, when we were struck with observing only the liver in the abdominal cavity. On a more minute examination, we found a small part of the sigmoid flexure of the colon, and the cardiac portion of the stomach—these communicating through a preternatural opening in the diaphragm with their respective continuations, which were contained in the left cavity of the thorax. Besides the liver and gall-bladder, the cardiac portion of the stomach, and the termination of the colon, there were in the cavity of the abdomen, the kidnies, covered with the peritoneum.

The rest of the stomach, the small intestines, and the remainder of the colon, with the spleen, pancreas, and great omentum, were found in the left thoracic cavity. These were further displayed by removing the sternum, with a considerable portion of the ribs on each side, as is elucidated in the Drawing. The mediastinum was pressed to the right side, so as to describe an arch of a circle. Equally were the heart and left lung pushed by the abdominal viscera to the right side of the mesial line. The left lung was compressed into little bulk; and, excepting a small portion of its surface, it had never been inflated—it resembled the thymus gland.

REFERENCES TO THE DRAWING.

a, a, a, a, a, The parieties of the abdomen.—The three upper ones are placed on the ribs, to which the diaphragm is attached; the two lower on the abdominal muscles, which are seen lined with the peritoneum.

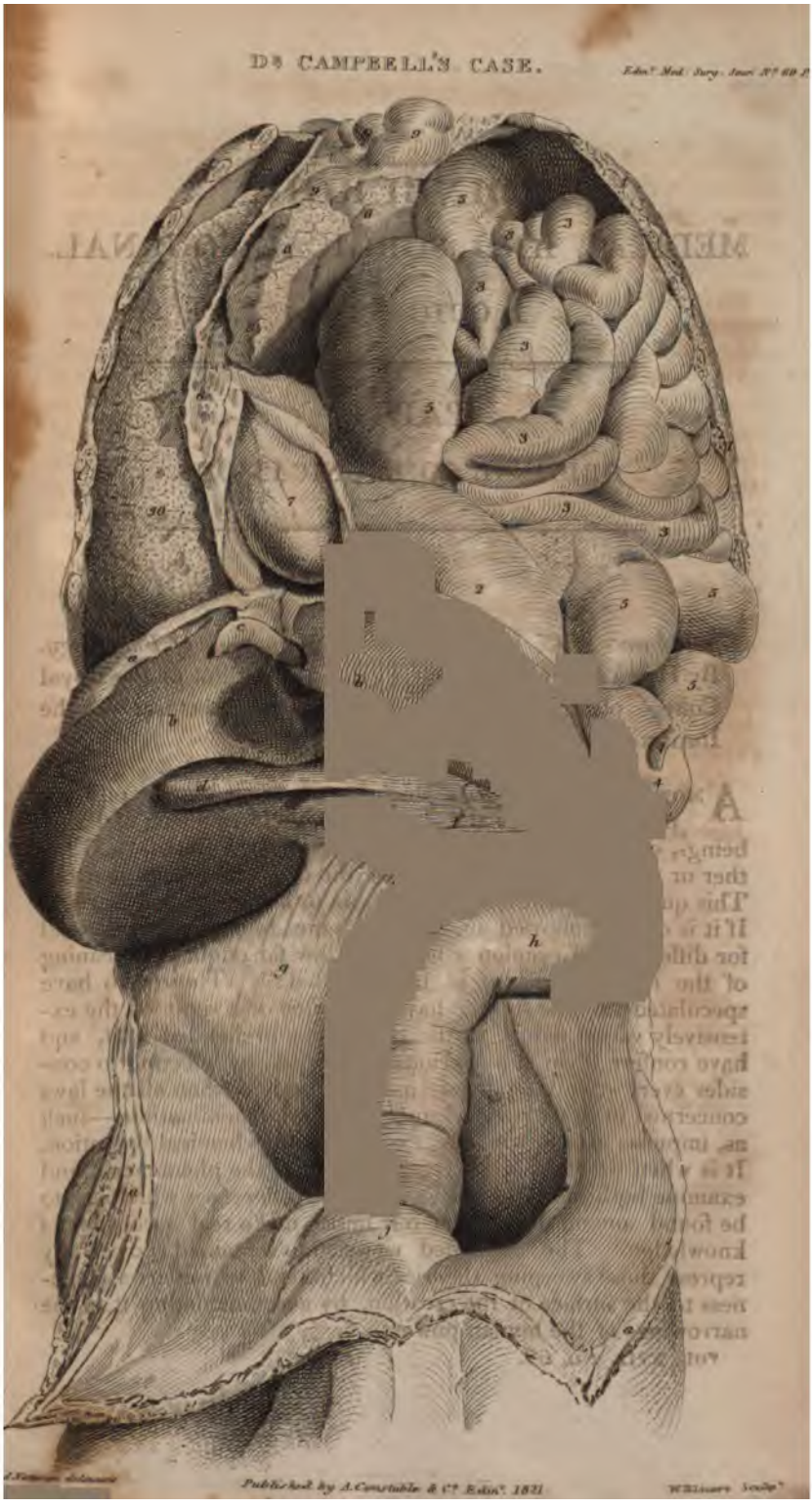
b, b, The right and left lobes of the liver.

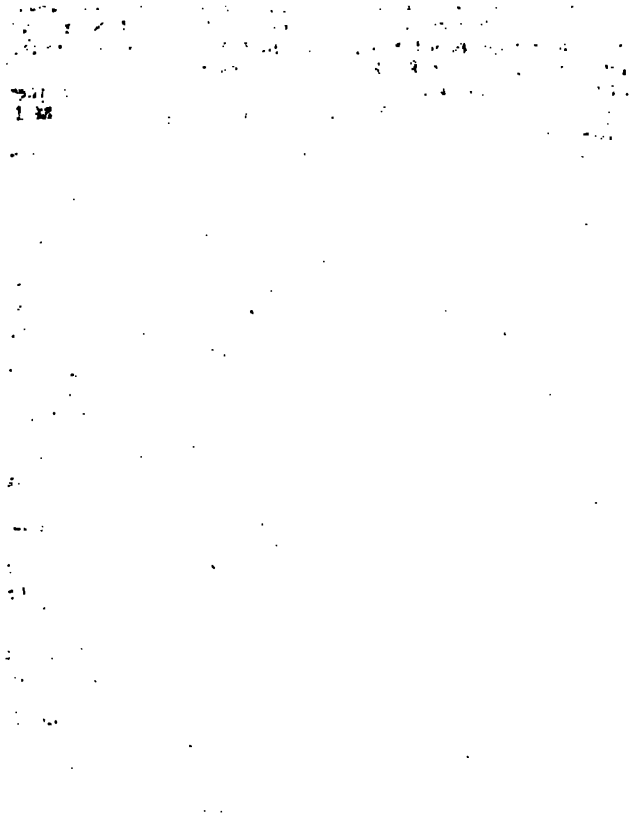
c, The umbilical cord.

d, The gall-bladder.—Its duct seen running along the surface of the stomach, to reach the duodenum in the cavity of the thorax.

e, The diaphragm.—The preternatural opening, through which the stomach and colon are passing, is immediately beneath the letter of reference.

f, The cardiac portion of the stomach, where it is passing through the aperture of the diaphragm. It is here seen covered by the loose peritoneum coming from the dorsal surface of the abdomen. *g.*


Dr CAMPBELL'S CASE.
Edin^r Med. Surg. Journ. N° 69
Published by A. Constable & Co Edin^r 1821



h, The termination of the colon, about to pass through the aperture of the diaphragm.
j, The urinary bladder covered with the peritoneum.

1. 1. 1. 1. Parieties of the thorax.
2. The stomach in the left thoracic cavity.
3. 3. 3. 3. 3. 3. 3. The small intestines.
4. 4. The caput coecum coli, with the appendix vermiformis.
5. 5. 5. 5. 5. Different portions of the colon.
6. The mediastinum, of a semicircular shape.
7. The heart.
8. The left lung—the figures are placed on the surface which had been inflated—the rest appears consolidated, and resembles glandular structure.
9. 9. 9. The thymus gland.
10. The right lung, sound and elastic, but limited in its expanse by the diminution of its cavity, from the pressure of the abdominal viscera in the left cavity.

V.

Account of the Epidemic Cholera, as it occurred at Mauritius. Communicated to Dr MacDonnel, Belfast. By C. TELFAIR, Esq.

MY DEAR DOCTOR,

THE report of a contagious disease prevailing in this island will have excited in your mind some solicitude for our safety, and you will naturally expect from me some account of its appearance originally among us;—its leading features—prevailing symptoms—distinctive characteristics—modes of treatment—and result. Although I have but little leisure at present for such a task, and shall probably omit many instructive circumstances; yet I am unwilling that what I have seen should lose its freshness and precision in my mind, by waiting for an idler moment. On the 16th November last, at Port-Louis, the faculty were first astonished by the sudden appearance of this new disease. The patients consisted of the black population chiefly, and of the Mosambique caste. These are the curly-headed woolly negroes,—low in the scale of civilization,—too

unintelligent to learn trades, and generally used as porters for heavy burthens, or such work as require mere animal force. They are an uninterprising quiet race, not given to excess, living chiefly on rice and Indian corn. When struck with the disease, they were generally at their common avocations; and, without any previous notice, fell at once to the ground, as if by an electric shock. In this state, they were lifted by their comrades and carried to their masters, or the nearest medical man. In a few minutes, the whole of the body, head and limbs, was covered with a cold sweat, falling off in great drops; the prostration of strength very remarkable; the strongest man having no more force, either of speech or muscular movement, than is observed in a fainting fit, when animation begins to return; the voice hardly audible; the skin, when touched, has the feel of wet marble. With this, there is a sensation of internal unquenchable heat; an incessant thirst; the tongue soon gets a parboiled appearance, and becomes cold from the first. There is a violent inclination to vomit, and to go to stool; the dejections resemble generally clear water, mixed at first with undigested aliment. In a few minutes, in some cases from the very first, no pulse is felt at the wrist; the fingers and toes, and arms and legs, become shrunk in a most extraordinary manner; so that, from being plump and round, they appear as if not only the blood had been drawn out of them, but as if the muscular substance had also disappeared. The nose also becomes cold and pointed;—and in the course of an hour, a stout man has all the appearance of having kept his bed, in a constant state of exhaustion, for six months. The eyes shrink into their sockets as if their fat cushion was absorbed. On looking at the profile of the patient, you see in most cases merely the circle of the orbit, the prominence of the eye having entirely disappeared. There is also a severe pain at the angle of the jaw in each side, and under the ears;—a partial deafness takes place. But the worst torments consist in the spasms which come on without delay, beginning in the cold feet and legs—running up the abdomen—twisting the patient in the greatest agony in every imaginable contortion—and returning every five or six minutes, accompanied with retching and tenesmus of the most violent kind, until death. The change of the countenance is very striking;—a father would not know his son to be the same person after two or three hours of the disease. Among the white persons who have fallen, this change is still more remarkable, as the yellow and livid colours commence very early to banish the natural white and red. These changes begin in the extremities; and many of those who have died had the

first presentiment of the fate that awaited them, from being struck with the extraordinary appearance in their hands and feet,—the shrivelled, shrunk appearance of the skin of the fingers and toes,—bloodless and fleshless,—and looking as if they had been sodden in water for days. The arms and legs become stiff, and with intense pain below the knees and at the wrists. The livid deadly colour follows these symptoms, and advances till the whole body and every feature are equally discoloured. The abdomen becomes distended like a drum—all dejections cease—the clysters which are thrown up are retained—the medicines which are swallowed and the liquids are not vomited, notwithstanding all the convulsive efforts of the patient. The natural heat never returns. From the first moment, every portion of the skin has the feel of a cold, wet, marble slab. Bottles of warm water—the vapour bath and warm bath—appear to have no more effect in exciting heat, than they would upon so much dead animal matter. Yet, with all this extreme cold, the patient cannot bear the weight of bed-clothes—complains of heat—is much annoyed at the frictions by which it is attempted to restore the circulation. The cold and viscid exudation from the skin continues to flow faster than it is rubbed off; and I am persuaded that, were the patients by any accident to be weighed before the disease, and again after its attack has endured for a few hours, the loss of substance would be found very remarkable, from that cause *alone*, of extraordinary cutaneous discharge. The duration of the disease, when fatal, varies from two or three hours to twenty-four or thirty—but generally it is under twelve hours; and the patient seems to have a presentiment, which is generally correct, of the period which is to terminate his sufferings, and predict the hour they are to die. Very few have any hope the moment they are seized; even the strongest minds are completely overthrown; and there seems a carelessness, and even aversion, to the employment of remedies. Such is a sketch of the symptoms generally, from which there has been little variation.

The introduction of this disease has been attributed to a frigate which arrived here from Ceylon a few weeks before the disease appeared at Port-Louis. It was known that the disease had existed at Ceylon, as well as all over the Indian peninsula, and had been at least as fatal as it has proved here. Look at the map of Mauritius, and I shall mark the progress which the disease took during its stay on the island. In the first ten days, it carried off about fifty persons a day at Port Louis, out of a population of eight thousand persons. The alarm becoming general, business ceased;—the shops were shut, and the inhabitants fled to the country;—the

disease followed them. It spread from the Port to the district of Pamplemouses—thence to the district of Floeg, at the interval of a few days—from thence to Mohebany or Grand Port, and successively to the Savannah, keeping chiefly along the coasts of the island; so that it did not reach our estate of Belembre until Monday, 24th January 1820. I had flattered myself that we should have been altogether exempt from its visitation, from the nature of the measures which I took, and the apparent success of my prophylactic plan: and though we have not been altogether so fortunate as I had hoped, yet the comparative smallness of our loss has been so striking, as to justify my communicating my precautions to you, and exhibiting the result.

It appeared to me, that the disease was peculiarly one of the nature of the Iliac passion; but of greater violence than usually occurs, and, therefore, depending very much upon the state of the abdominal viscera. The classes of people who were most liable to its atacks, were those much troubled with visceral complaints, indigestions, worms, and all those disorders which arise from a food consisting of much vegetable aliment, without much condiment, and insufficiently prepared for digestion by the processes of cookery. The consequence is, that the stomach and bowels are generally distended with undigested matter—worms are generated in great quantities—diarrhœas occur from time to time—and marasmus is not unfrequent among persons thus fed. Under these circumstances, a violent inflammatory attack of the viscera is generally irresistible;—there is great difficulty in overcoming the causes of inflammation;—the patients will hardly bear the lancet—or great evacuations. It was to these causes, or similar ones generally, that I attributed the great mortality that attended the disease. I myself had adopted a plan of feeding our people, which tended to prevent diseases of the stomach and intestines. The food was more carefully prepared. A large quantity of nourishing soup, containing a considerable proportion of animal aliment, was always at the disposition of every person on the estate to eat as much of as he liked. By frequent examinations of the people, I had overcome the prevalent tendency to worms, not only by the means abovementioned of strengthening the stomach, but by frequent administration of small doses of calomel at night, succeeded by castor oil in the morning, in all clearly marked cases. Our estate was, from these causes, more healthy than it had been for years. At the time the disease appeared at Port-Louis, when it began to spread and gain ground, I deemed it proper to take still farther precautions,—to keep the bowels soluble,—

and administered to each person on the estate, every Sunday morning, from one to two grains of calomel on an average, and half a pint of salt water at the seaside; and, on Thursday morning, the same quantity of salt water without the calomel. This may remind you of Dr Last's prescription of "julapping the eastward and bleeding the west," in Foote's farces. But when you have to dose a population exceeding five hundred persons, it is not inconvenient to reside at the side of the ocean, and to draw from that grand reservoir. Whatever effect may be attributed to this cause, it is certain that the people remained healthy on this plantation, whilst all around us were suffering under the disease—even our nearest neighbours on each side of us: And so struck were the inhabitants generally with our exemption, that many followed our example, so far as the evacuating plan went, and conceived that the best consequences resulted. But my own opinion is, that the previous system of superior nourishment is of indispensable importance also to a fair trial.

At last, the disease reached Belembre.—Its first victim was a negress of the Mosambique caste, aged 54 years. This woman was at her ordinary work, weeding some Indian corn near the house, when she was observed by the surgeon of the Establishment leaning against a rock, and making efforts to vomit. He examined her pulse, and found it small and confined. In this case, the duration of the disease was eleven hours. She was seized at five in the evening, and died about five next morning. She had made no previous complaint; and when questioned, said she had been sensible of no incommodity, but that of a slight looseness during the forenoon.

On the following day, the 25th, another Mosambique negress, of the same age, complained, at ten o'clock in the forenoon, of looseness, colic pains, and sudden prostration of strength;—her pulse much confined, or, as the French say, "*gené.*" Towards noon, the symptoms were aggravated. She took small doses of neutral salts every hour; larger quantities of rice water and other mucilaginous drinks; emollient clysters frequently; warm bath, and frequent warm embrocations of the abdomen. Towards evening, the coldness became universal. Her pulse vanished from the extremities; and, in the beginning of the night, she expired.

After the death of this negress, there was an interval of several days before any fresh case happened on this estate; but, on Tuesday the first of February, a Madagascar negress, aged about 45 years, complained of colic pains and looseness. She stated that she had been thrice at stool during the night; but had slept well in the intervals. Her pulse was, however, loaded; and there was an apparent alteration in her features. A

neighbouring surgeon, Mr Hodoyer, called in to visit her, with the medical man of the estate, stated, that it was the reigning disease under which the patient laboured; gave ipecacuanha, which vomited copiously; and continued doses of neutral salts, two drachms every two hours; with abundance of mucilaginous drinks and clysters. All these means were ineffectual. The alvine dejections were constantly watery, mixed with a gray mucus and undigested aliment. The pulse disappeared during the day; and at night she expired.

Next day, the 2d February, at five o'clock in the morning, a strong and robust Mosambique black, of 40 years of age, complained of colic pains and diarrhœa. His dejections were of the same nature as those of the others. He complained most of a dull pain in the lower part of the abdomen, and chiefly at the left flank, with a feeling like a ball, which forced its way upwards, causing a fluttering of the heart—the skin cold—pulse small—and hardly perceptible at the wrist at long intervals. He was treated with hot baths, and evacuants and frictions, as the former cases,—and with the same result. His nose and extremities had become thin and crisped; but his body was full, muscular, and fat. An hour before his death, the general coldness had given way to a great accession of heat—like the hot fit of a burning fever. He was then in the hot bath, and, by his exertions, got out from the hands of four blacks, who attempted to keep him in it.

The same day, at noon, another black of the Creole caste, complained of similar symptoms; his age about 35 years. Seeing how ineffectual the plan hitherto pursued had been, we began by taking six ounces of blood from this man, although it was obtained with difficulty, from the smallness of the pulse. Administered thirty grains of ipecacuanha in powders—gave frequent clysters of mucilaginous liquids—warm bath—and, after the operation of the emetic, small and frequent doses of rhubarb. The symptoms became very early of intense violence, —a most profuse cold colliquative sweat—pulse very feeble—severe pains about the pericardium, and in all the articulations of the bones of the limbs and body. His face looked as if frozen —his eyes shrunk back in the sockets—his fingers crisped and bloodless—his sufferings were extreme; and he gave over all hopes from the first moment. It was needless to attempt any farther remedies with this man; yet saline medicines were continued, which he swallowed; but they produced no effect;—nothing was vomited, and his purging stopped. His stools at first were watery and white, with flocculent mucosities much subdivided, and appeared as if flour had been thrown into them in small quantities. Bottles full of warm water were wrapped in

flannel, and placed all round his body and limbs to excite warmth,—but in vain. As this man had the appearance of being very athletic, full of blood and strong, being our chief blacksmith; and as five hours had not elapsed since his first seizure, it was deemed proper to bleed him again, notwithstanding the extreme prostration of strength, if he were to die under the operation. It was thought that it would, at all events, lessen his torments and agony, which appeared extreme. He was therefore put in a hot bath, and his pulse thus returning in the arms, the surgeon took ten ounces more blood from him. His convulsions and writhings were incessant; his enemata were not returned; all that he swallowed remained in his stomach. He called for cold water, and drank much. His breathing was with that kind of whistling noise which is made when a person feels extreme heat;—he died in less than six hours from his first attack. The rapidity of the fatal termination in this case decided me, notwithstanding the prejudices against dissection, to examine the body after death. I had previously made diligent inquiry, among all the medical men of my acquaintance, as to the result of their observations in the dissections they had made in this disease since its appearance amongst us; but was invariably told that there had been no appearance, either in the viscera or brain, that could at all explain the extreme violence of the symptoms. The surgeon opened the body before me. There was nothing remarkable in the thoracic cavity; the liver, also, was apparently sound and unaffected; the gall-bladder, with a proportion of bile, apparently of a healthy quality. The stomach appeared much distended, and of a darker hue than is usually found; and its blood-vessels appeared large and dark. We opened it, and found its contents to consist chiefly of what the patient had last drank, mixed with a great abundance of filamentary mucosity, and with a greasy appearance. The whole interior coat was highly inflamed, and so dark as to leave no appearance of its natural colour;—it was like a raw, bloody surface, and the vessels appeared as over-distended by a forced injection. The pylorus was, on the outside, like a hard tumified gland, much increased in bulk; and within was so narrow in the passage as to admit with difficulty, and after several attempts, a passage for the little finger. The duodenum participated, but in much inferior degree, this turgescence and inflammation. These appearances were enough, in my opinion, to satisfy our judgment as to the cause of death. However, wishing to leave nothing unexamined, we proceeded to trace the whole course of the intestines, and found, without expecting it, one intus-susception near the middle of the ilium,

and another near its inferior extremity. These volvuli, or invaginations, appeared very recent; the portions of intestines comprised in them were not apparently inflamed; a slight pull with the hands disengaged them, although the part taken in was four inches in the one case, and about five in the other. There was no collection of feces or fluid either above or below the point of intus-susception, nor any remarkable trace of irritation; and I attributed these volvuli rather to the effects of the agonizing spasms, to which the patients had yielded, than considered them as causes of his sufferings. There were no other variations, from the appearances of nature, observable in this dissection. There was much fat in the omentum; although that of the limbs and the orbits of the eyes seemed to have been absorbed.

It appeared to me that this case demonstrated decidedly, that notwithstanding the extreme prostration of strength, and every symptom denoting a diminution in vascular energy, yet that the disease itself was nothing else than a most violent inflammation; and that the sole hope of subduing it must be sought for in the withdrawing the pabulum of inflammation from the system, and at the same time exciting, in the extremities and on the surface, an increased action by all means in our power. This latter part had already been attempted with little success by means of frictions, baths, heated bottles and stones; and there appeared an absence of that vis vitæ necessary to be excited into action by blisters and sinapisms. The patient generally dies in a cold fit, before a hot paroxysm has time to succeed; yet, in one of the cases I have cited, there was the hot fit established an hour before the fatal termination; and in the last case, it is seen that the inflammation is at its extreme violence in the cold fit. It appears as if the great mass of blood deserted from the extremities, and, pouring upon the centre, produces extraordinary action and heat internally, whilst the surface is cold and flabby, and bloodless and insensible.

The next case which I shall mention had a favourable termination. The black was of the Indian caste. He had the usual symptoms; but the skin was not covered with the cold colliquative sweat. His dejections were watery—pulse hardly perceptible. Eight ounces of blood were immediately taken, though with difficulty; ipecacuanha, and afterwards rhubarb, given without effect; diluting drinks and mucilaginous clysters every quarter of an hour; hot bath. At length, vomiting came on; when it ceased, castor oil was administered. The pulse had entirely ceased at the wrist. Hot bath repeated, at as high a temperature as could be borne. About nine hours from the

moment of seizure, the stools began to appear mixed with feces; the patient became more calm. It was now night, and he had some minutes of sleep from time to time;—his pulse began to return, though feebly. The next morning, a dose of natron vitriolatum, much diluted in rice water, was given; diluting drinks and clysters continued. The sufferings became less constant and troublesome. The heat returned to the surface. The third day, he was without pain; no diarrhœa; great weakness. Purgative drinks of salts and manna were given; his appetite returned; he was carefully nourished; had claret and water for drink; and, in a few days, was able to go about light work.

In our population of nearly six hundred people on this estate, I lost seventeen by this disease, which was considered as a very small proportion; many habitations having lost 10 or 15 per cent. of their people, and some even more, reduced in a few days, by this misfortune, from opulence to poverty. I opened every subject after finding the intus-susception, and to my surprise found, in all but one, the same appearance. Every case had one or two invaginations of the ilium, and one child had four. It appeared extraordinary that the same appearance was not observed by the medical men of the island, which I attribute to a less curious examination on their part than I myself made. In the general and superficial look at the intestines, which is generally considered sufficient in such dissections, there was nothing to excite inquiry; and the minute search which I happened to make, on the first dissection, leading unexpectedly to the discovery of these volvuli, I continued a similar search in the other cases, and found similar results, without being at all prepared to meet them. Whether you may consider them as causes or effects of the sufferings of the patients, I know not; but I am inclined to regard them in the latter light; because in general I found, that the parts of the intestinal canal actually invaginated were without those strong marks of inflammation approaching strangulation, which it would require to produce the tormina vehementia, cruciatusque intolerabiles of the disease, whilst the region of the stomach exhibits the inflammatory state. The epigastric region is perhaps the strongest central source of sensibility. A blow upon it kills, without any apparent organic lesion; it was the finishing stroke, formerly, of death upon the wheel; "the coup de grace." The extensive webwork of nerves which forms the solar flexus, and which is distributed over the epigastric viscera, may in some way account for the strongly associated sensibility by which the mind and body are so intimately operative on one another at that point. If we are under the influence of

agreeable feelings or passions, the most pleasing and powerful part of the sensation is referred to that point. In grief, also, the oppression is most felt there. Surprise or terror tightens our breathing, as if a cord were drawn round the epigastrium. The disease we are describing seems to attack also this prime seat of feeling; and this may serve to reconcile the apparent anomaly of several of the symptoms. The malady appears to be essentially fixed in the epigastric region; and the spasms, intus-susceptions, cold sweats and torments, are the accompanying symptoms.

Mauritius, 28th January, 1820.

I had written so far, my dear Doctor, when I became alarmed at the length of my letter, more particularly as I had not said more than half of what I intended; and on that account had laid it by, intending to forward it to you at some future opportunity, with such other light as my intercourse with the medical practitioners of the island might enable me to collect. I have since, however, been so occupied on subjects more urgent, that I have not had time to think upon the subject, and therefore send you this. I subjoin the only papers which have been printed upon it here. You will observe, that the subject of its contagious nature has given rise to some acrimonious feeling, and strong measures. My own opinion is, that it is contagious, and was introduced here by the frigate Topaze, from Ceylon; but parties run so high, that I keep my opinion to myself here. Some calculate the loss occasioned by the disease, during its stay of three months with us, at ten thousand, which is the tenth of our population; others, so low as four thousand: it is not easily ascertained, from local and peculiar reasons, as connected with this subject. I subjoin an extract which I accidentally fell upon. It is from Olaus Borrichius. "Relatum mihi nuper a medico e Jamaica reverso, iliacam passionem malum illic endemicum, crudeliter regnare. Seque in aliquot subjectis quos ista lues confecerat, a morte cultro observasse, intestina in se invicem spiræ modo contractu arctiori, cæterum duplicata in se involui, haud alitur ac gladius vaginæ inseritur aut vitrum angustius capaciori solet includi."

Mauritius, May 1st, 1820.

VI.

Case of the Epidemic Indian Cholera treated successfully. By Dr William Lloyd, Graduate of the University of Edinburgh, Member of the Royal College of Surgeons, London, and Assistant Surgeon to his Majesty's Forces, &c. &c. &c.

At Vepery, Madras, previous to leaving that settlement, the 18th May, 1819, I was requested, by a Captain of his Majesty's 34th regiment, to accompany him for the purpose of seeing Lieutenant Green of the same corps, who was at that moment attacked with violent spasms in the stomach.

On approaching his house, excessive reiterated screams were distinctly heard, which impressed me with an immediate suspicion he was suffering from spasmodic cholera. Entering his apartment, I found him labouring under this deplorable disease. From the report of the case, which with some difficulty I obtained from himself, in consequence of extreme mental agitation, he had been, for some days previous to the approach of the attack, indulging freely in the use of malt liquor (a potation much in use amongst British officers in India), and did not attend in a proper manner to the state of his alvine discharges, (occasionally) subject to irregularities in the primæ viæ; and a few minutes before the disease commenced, he had several excrementitious evacuations of a most offensive description, mixed with morbid bile and mucus.

In a complaint so alarming and destructive in its consequences as this epidemic was throughout this settlement, at a moment when such controversy of opinion prevailed respecting its treatment, it was difficult to say what practice was most likely to prove successful in this case. However, as I have always conceived the disease may uniformly be attributed to an obstruction of the free circulation of blood through the pulmonary vessels, and particularly the heart and its immediate branches, I was induced to try in this, as well as other cases, venesection. In Ceylon, as likewise in other parts of India, where this practice was adopted (whenever it was possible to detract blood), it was followed with considerable advantage.

The officer alluded to in the preceding statement was plethoric and muscular. The symptoms of his case were as follows. He was suddenly seized with excessive spasmodic action of the stomach and abdominal muscles; considerable nausea, and in-

clination to vomit; the spasms recurring at short intervals, the relaxation from pain being of a short duration, not exceeding three minutes. He complained of a sense of heat and pain in the epigastrium, and was frequently striking this part with his hands. He was affected with deafness, and some degree of thirst. His respiration became suddenly oppressed, and was performed in an interrupted manner, accompanied by a peculiar noise; tongue white, but moist. The countenance soon changed, indicating much suffering; heat of the surface of the body much below the natural standard, and moist; pulse feeble, and extremely irregular. A few minutes after my first seeing him, he complained of a sense of coldness in the feet; and the circulation evidently commenced forsaking his lower extremities. The spasms now began to affect the feet and legs, particularly the muscles of the left limb, which were firmly contracted, hard and painful. This effect was also to be observed in the abdominal muscles, which were tense and rigid. The foregoing is a general statement of the case, and the following the result of my practice.—On first seeing him, my attention was at once directed towards averting the violence of the spasms.—12 o'clock, midnight.

Capiat haustam sequentem *quamprimum.*

℞ Tincturæ opii guttas cxx.
Ætheris sulphurici *drachmas duas.*
Aquæ fontanæ *drachmas sex.* M.

A wine-glassful of brandy to be given (with an equal portion of water) every ten minutes. Half an hour after, the spasms of the stomach and extremities increased. Flannels, wrung out of hot water in quick succession, were kept constantly applied to the abdomen. The draught of tinctura opii was increased to the quantity of *one hundred and fifty* drops without *æther*, mixed in four ounces of brandy, and given *twenty minutes* after the first draught. A quarter of an hour after this was taken, the spasmodic symptoms increased, and the pulse became more feeble and intermittent. I took *forty-five* ounces of blood from the right arm; and soon after he became considerably relieved, the spasms diminishing in violence, the intervals between *each* gradually lengthening. *Two* hours from the commencement of the attack, all convulsive action ceased. The pulse had risen, and became regular and small; he very soon after fell into a soporific state, which continued three days. The day following, I commenced purging him freely with brisk cathartics. First ordered

℞ Hydrargyri submuriatis gr. xxv.
Pulveris radicis Jalapæ *scrupulos duos.* Misce.

This powder had no effect three hours after it was taken. I substituted the following.

℞ Potassæ supertartratis *semidrachmam.*
Pulveris jalapæ *scrupulos duos.*
——— Zingiberis *grana octo.* M.

This produced, shortly after it was taken, several offensive evacuations, extremely copious, and of a very dark appearance. The purgative treatment was consequently continued, and the following mixture prescribed, until the alvine evacuations assumed a healthy condition, viz.

℞ Magnesiæ sulphatis *uncias duas.*
Mannæ optimæ *unciam cum semisse.*
Infusi Sennæ simplicis *uncias duodecem.*
Tincturæ ejusdem compositæ *unciam cum semisse.*
Misce.—Fiat mistura aperiens; cujus capiat cochlearia duo majora omni hora ad purgationem usque plenam.

This medicine produced several tenacious discharges, which was constantly persevered in three days after, leaving him in a state of convalescence. Soon after, he enjoyed good health.

Isle of Wight, Newport, 24th July, 1821.

VII.

Neuralgia of the Inferior Maxillary Nerve.—"*Nervus mandibulo-labialis,*" *cured by Operation.* By JOHN LIZARS, F. R. S., Fellow of the Royal College of Surgeons, and Lecturer on Anatomy and Physiology, Edinburgh.

"Operations have come at last to represent the whole science."
JOHN BELL.

THIS case I am induced to communicate, as it resisted all the remedies employed but the knife, and as the nerve was cut where it enters the osseous canal; a point at which I do not find any author on the subject mentions the operation to have been performed. On the contrary, it is considered by some as impracticable, by others as hazardous.

Neuralgia, from the days of Hippocrates to the present time, has been frequently the subject of observation. It is a disease of such peculiarity, and so painful in its symptoms, that it could not fail to excite the attention of every one who has witnessed it. Various ingenious theories have been proposed to explain

its nature, and still more numerous have been the remedies for its cure. Of all the theories which have been advanced, that of Pouteau appears the most rational, if we divest it of its humeral pathology. Bobemoreau has published the history of a case of neuralgia of the face, which assumed the intermittent type, and which this physician removed for six months by administering cinchona and opium. Pinel relates another case of a soldier who laboured long under sciatica, having recovered by joining his regiment on a campaign. Neuralgia has been found in the same constitution with hysteria and hypochondriasis. Thouret, Andry, and Heurteloup, cured patients labouring under neuralgia with magnetism. Blunt cured a lady affected with neuralgia with electricity. The infra-orbitary neuralgia presents either the remittent or intermittent type; the latter more frequently.

From these facts and observations, as well as the whole history of the disease, I am somewhat surprised that Chaussier, and several French authors of the present day, should consider neuralgia true phlegmon or phlegmasia of the nerves. Chaussier describes it as consisting of pulsations, lancinations, and tearing or dragging pains, without any other inflammatory symptom either before or after the paroxysm. He and his followers state, that there is no redness or increase of heat in the soft parts. They only allow, that sometimes the skin is affected with tumefaction, and a light colour. Such an assemblage of symptoms never can authorize the appellation of phlegmon; otherwise, we must remodel those characterizing phlegmon. Rousset, who is of the same opinion with Chaussier, and who dissected a case of sciatica in the Hotel Dieu, mentions that the envelope of the nerve was a little relaxed, and that the veins of it were varicose, but that no other appearance was manifest. Captain G——, the subject of the well marked case related by the late celebrated John Bell in his volume on Tumors, died last winter, and I had the good fortune to dissect him. Sixteen years ago I was present when Mr Bell cut the infra-orbitary nerve of the left side; but since that time, the supra-orbitary and mental nerves of the same side had also been cut. In the dissection, the supra-orbitary was first examined; the nerve both before and after the division appeared perfectly natural. The point of division was white and dense like cartilage, and formed a considerable mass of substance, somewhat in resemblance to a ganglion, such as the semilunar. The infra-orbitary presented a similar appearance: at the foramen, there was a quantity of this white dense matter; but the twigs of the nerve quite natural, were distinct beyond this point, and were evident-

ly connected with it. Precisely the same was observed at the mental foramen. Of the reunion of a nerve there cannot be the least doubt, after the experiments of Haighton and Swan, whatever may be the opinion of Richerand. One man often can accomplish what another cannot.—"They are ill discoverers that think there is no land, when they can see nothing but sea."

Taking advantage then of all that has been written on the subject, it appears to me that neuralgia is a disease of a nerve wherein the sensibility of its extreme twigs are morbidly increased; so that, by the slightest irritation, this may become excruciatingly agonizing, and the parts supplied with the nerve be violently convulsed. "All the pains of the body," says the illustrious Darwin, "may be divided into those from excess of motion, and those from defect of motion; which distinction is of great importance in the knowledge and the cure of many diseases. For, as the pains from excess of motion either gradually subside, or are in general succeeded by inflammation; so those from defect of motion either gradually subside, or are in general succeeded by convulsion or madness." Now, it will at once appear evident, that neuralgia comes under the latter of these. That it is defect of motion in the nerve at first, is manifest from its being caused almost invariably by cold. This state of matter applied to the nerve appears to chill it for a time, then convulsive action follows; and the alternate quiescence and paroxysm are dependent on the laws of animation. Were neuralgia inflammation of the nerve, the pain would be as constant as in phrenitis, and there would be a deposition of coagulable lymph in the neurilema.

Of the various modes of treatment, the Cautery, either potential or actual, and the Knife, seem the only ones deserving notice.

The Cautery is the method adopted by the French surgeons of the present day;—they condemn the Knife. The former no doubt has been, and promises to be, generally as effectual as the latter; but in this country it has been so condemned, that the following observation of Pouteau is truly applicable. "Les médécins qui se vanterent de pouvoir lui substituer avec avantage des moyens plus doux, trouverent facilement dans la crédule timidité des malades, des apologies qui exaltoient leur reputation, en même tems qu'elles enervoient le médécine. Je sais ce qu'il faut penser de ces sortes de declamations, celles sont toujours quelque chose d'outré." Thus, when practitioners in this country, from ignorance or petulance, address language to their patients similar to that alluded to by Pouteau, is it to be wondered at that so strong a prejudice should exist against it!

Whoever will take the trouble to read the history of the cautery, will not hesitate to apply it whenever it appears requisite. Prosper Alpinus thus eulogizes Egypt for the employment of the cautery.—"Hoc igitur est illorum propositum auxilium, quod multis aliis utilitate in morbis antiquis præferunt, de ipsoque illi populi non parum jactantur." And Pouteau observes, "Les modernes ont eu le plus grand tort, d'avoir abandonné et même condamné des moyens de guérir, auxquels ils n'ont supplée par aucun autre de pareille efficacité."

The cautery seems to act primarily and almost solely on the extremes of the nerve affected, which, being the most sensitive and the most involved in the disease, will be paralyzed or destroyed for a time. Thus their increased sensibility will be subdued. "L'action du feu sur les nerfs, dit M. Pouteau, est d'abord celle d'un agent qui est l'ame de toute la nature." The moxa and red-hot iron are preferable to any of the caustic preparations.

The Knife, which is the fashion of this country, and which, in the hands of the blood-thirsty, has threatened again and again to degrade our profession, must act by cutting off the source of the diseased nerve for a time; and hence the increased sensibility will be subdued. It has frequently failed in this, as in many other diseases, to accomplish a cure.

Mercury has been used in two or three instances of neuralgia of the face with success; but these are not numerous enough to decide its efficacy. Again, it has been known to give rise to sciatica. "L'action du mercure, dit M. Richerand, principalement celle du muriate mercuriel oxigéné, y a quelquefois donné lieu." Where it was administered in the affections of the face, it aggravated the pain until pushed to excite violent ptyalism; it must consequently act by overpowering the sensibility of the nerve, partly by exhaustion, and partly by the tumefaction of the face.

Neuralgia of the face is liable to be confounded with toothach, hemicrania, rheumatism, abscess of the maxillary antrum, muscular cramps; and, we may add, the pressure of too many teeth in either of the maxillary bones. A very interesting case of this nature occurred to me last year, of a lady who was tormented with pains resembling those of tic douloureux, and which were removed by extracting one wisdom tooth after another. The teeth had so little room that, in their descent, the crowns were turned towards the cheeks. Similar cases, I understand, occur occasionally to the dentists. Pujol thus characterizes the symptoms of neuralgia, which appear clear enough to distinguish it from other diseases. "Les douleurs sont mo-

mentanées et extrement aiguës, qui se font sentir de temps en temps comme des coups electriques dans certains lieux determinés de la face, qui de là rayonnent en différens sens, et font éprouver la sensation d'un instrument tranchant plongé dans les parties molles."

I have made these preliminary observations, in consequence of finding the disease little known, and often misunderstood. A gentleman in this neighbourhood consulted me, about three years ago, for neuralgia of the mental nerve; when, to my surprise, on examining his mouth, not a single tooth had been left. He appeared, in place of a man in the meridian of life, one between sixty and seventy. The division of the nerve, at its exit from the mental foramen, gave immediate relief.

The patient whose case I am about to detail, is a labourer within 10 miles of this place, 55 years of age, and of a sound constitution. He was attacked with this complaint some time in July 1819; and his medical attendant, imagining the affection toothach, extracted the third and fourth molar teeth of the lower jaw on the right side, the place where the pain was acutely felt. This, however, procured no relief. Various remedies were then employed, such as narcotics, purgatives, blisters, and local bleedings; but all to no purpose. The disease daily increased, both in severity and duration; and, after five months painful struggles, he applied at the Hospital, where he was put under the care of a physician of no inconsiderable talents, who administered narcotics both internally and externally to a great extent, to try their efficacy, before resorting to more powerful means. After six weeks ineffectual trial, the man, worn out with his sufferings, and despairing of ever obtaining relief, requested his dismissal, which was accordingly granted. He then, by chance, happened to meet a patient on whom I had operated for hernia, who sent him to me.

When he called on me, towards the end of December 1819, he was incapable of describing his sufferings, from the dread of bringing on a paroxysm; for whenever he spoke, eat, or moved any of the muscles of the right side of the face, instantly an attack came on. He referred me to his daughter, who accompanied him. She then told me the preceding short history of her father's complaint, and mentioned that the pain began near to the second molar tooth of the inferior maxillary bone on the right side, darting from thence to the ear and to the eye and the temple of the same side, accompanied with a violent convulsive action of the muscles of the face, with redness of the skin, and a flow of tears. He had not been long in the room when a paroxysm attacked him, and I witnessed a painful ex-

hibition of these symptoms; he clapped his hands to the sides of his head, as pressure always soothed his sufferings, and continued writhing in agony for a few minutes. None but an eye-witness can conceive the tortures in this malady. Their effects are faithfully pictured by a French author as follows—" Le malade qui est frappé d'une nevralgie maxillaire, redoute de prendre quelques alimens; la douleur est si vive que les malades se soumettent sans frémir aux operations les plus douloureuses: ils reclament aux mêmes les vesicatoires, les moxas brûlans, la cauterization la plus cruelle: dans l'espoir de trouver un terme a leur maux, ils desirent avec ardeur le secours si generalement redouté, du bistouri. On a vu plusieurs malades mis au desespoir par une nevralgie maxillaire, ne pas hesiter a se faire arracher successivement toutes les dents, à subir le contact repété du cautère rougi à blanc, braver les plus vives douleurs, et mepriser les cicatrises les plus hideuses; d'autres après avoir tenté sans succès une multitude de traitemens divers, n'esperont plus dans la puissance de l'art, ni dans celle de la nature, ont mis fin volontairement à une existence qui était devenue pour eux le plus horrible des supplices." The paroxysms recurred every half hour, both in the day and during the night. When I proposed to him the moxa or the knife, he entreated for the latter, as it would sooner decide the chance of relief. Accordingly, next day, in presence of Mr Allan, surgeon to the Infirmary, and Dr Grant, house-surgeon to the same establishment, and several of Mr Allan's and my own pupils, I divided the nerve as it emerges from the mental foramen of the inferior maxillary bone, by cutting the lining membrane of the mouth from the gums, precisely below the second molar tooth, an invariable guide to the situation of the foramen. *

The nerve, as it runs up to expand on the cheek, (for in this instance it had not yet branched into its twigs), being quite evident, I cut away a portion about the fourth of an inch. When the nerve was cut, he gave a leap, a sure criterion that it was divided. From the moment of division, he was no longer molested with pain. The wound healed in a day or two, and he returned to the country, where he resumed his occupation as a labourer, and enjoyed excellent health, until one morning in December last he was suddenly awaked with the same torturing pains.

* A straight line, drawn from the second molar tooth of the inferior maxilla to the base of the bone, will always indicate the mental foramen: and a straight line, drawn from the second molar tooth of the superior maxilla to the margin of the orbit, will invariably bisect the infra-orbitary foramen.

Thus he had been freed from the disease for the space of twelve months.

After enduring these excruciating tortures day and night for five weeks, and hourly becoming worse, the paroxysms recurring at shorter intervals, he came to town, and called on me on the 3d February last. The symptoms were nearly the same as formerly. They returned at shorter intervals, scarcely five minutes intervening between the paroxysms. When I again proposed the cautery, he instantly entreated me to cut the nerve, for he had no faith in any thing but the knife; and, as the last operation was so trifling, compared with the pain he then and now endured, I appointed the next day,

4th February—When, in presence of Dr Duncan junior, Professor of Materia Medica, Mr Allan, surgeon to the Infirmary, Dr Campbell, lecturer on Midwifery, Dr Milligan and Dr Moore, I made an incision inside of the mouth, in a line with the inferior maxillary bone, precisely beneath the second molar tooth, separating the lining membrane of the mouth from the gums. My intention was to lay bare the nerve, and remove a piece as formerly; but in this I was disappointed by the old cicatrix, which by its thickening had obscured the nerve, where I presumed it had formed a junction. The mental foramen could be distinctly felt; and the application of the finger or knife excited severe twitchings. I therefore cut across the nervous matter, which relieved him, and quieted the convulsive actions of the muscles. To endeavour to prevent a reunion of the nerve, I inserted a small piece of dry sponge into the wound, to excite suppuration and gradual granulation.

5th.—Had passed a better night than for the last ten days, but felt uneasy from the sponge. The wound was ulcerating and pouring out matter; I therefore removed the sponge, and inserted a small piece of lint.

6th.—The pain had been equally severe all night as before the operation. I therefore prevailed on him to allow the actual cautery to be applied to the wound; and I endeavoured to sear the nerve at the foramen, as well as the cut twigs. The next day, as he had felt no relief from the cautery, I scarified all round the foramen, and again cauterized. I dreaded exfoliation of the bone; which, however, I find was intentionally done by André in one case, with perfect success. He passed a much better night compared with the preceding, and accordingly next day I repeated the cautery to the same extent. In this way of applying the cautery, which always mitigated his sufferings, I continued till

The 18th, when at the suggestion of Dr Duncan and Mr

Allan, who always met me in consultation, and to whom I consider myself under many obligations for their valuable advice, I cut the inferior twig of the facial nerve, which communicates with the mental. I made a small perpendicular incision a little before and parallel to the ramus of the inferior maxillary bone, where the nerve emerges out of the parotid gland over the masseter muscle. I then divided the nerve, and removed a piece about the fourth of an inch.

This operation so far lessened his sufferings, that he experienced a better night than since the last return of the complaint; and the following day was passed with intervals of two hours free of a paroxysm. In two days after, however, the pains returned as severe as ever. It was therefore deemed advisable to extract the second molar tooth, the point where the pain commenced, and cauterize down to the canal of the nerve. This was accordingly done; but no relief was experienced, excepting for a short while after the application of the cautery. The same was repeated for three days successively, but all to no purpose. He continued as much tortured as ever. It was truly heart-rending to witness his sufferings.

On the 25th, I proposed to the gentlemen who had met me before in consultation, to cut first the inferior maxillary nerve as it enters the osseous canal, then the facial at its exit from the stylo-mastoid foramen, and, thirdly, the infra-orbitary, independent of what is urged against the two first operations by Dr Haighton and Mr Swan, rather than suffer this poor wretch to endure such misery.

On examining the mouth, great pain was given by touching the coronoid process of the lower jaw bone, as well as the gum all along the right side.

The next day, the 26th, I tried to divide the nerve, by introducing from the inside of the mouth a sharp-pointed curved bistoury along the inside of the coronoid process of the inferior maxillary bone, between it and the pterygoideus internus muscle to the foramen; then lateralizing the instrument outwards, and cutting towards me, with the expectation of hooking the nerve. In this I experienced considerable difficulty, from the superior maxilla shutting up, as it were, the space. He felt at one time excessive pain, indicating the division of the nerve. He was easier during the afternoon, but passed nearly as bad a night as formerly. The following day,

The 27th, the pain was confined to the seat of the extracted tooth; this, therefore, was cauterized. As the operation of yesterday had caused considerable tumefaction, so as to prevent any examination of the wound, we put him on a course of cal-

bonate of iron, which he took to the extent of two ounces daily. This he continued to the

4th of March, without receiving the least benefit. To-day I prevailed on him to allow the application of the moxa, which was accordingly done; but he could scarcely suffer it.

15th March.—He was relieved a little during the afternoon of the day the moxa was applied; but the following day his sufferings were as severe as ever. The tumefaction of the muscles in the neighbourhood of the wound last inflicted, having now subsided, and the sore formed by the moxa healed, I again attempted to divide the nerve as it enters the foramen; but in place of the bistoury, I made first a perpendicular incision with a scalpel close to the coronoid process, and then introduced a round shaped gum lancet between the process and the internal pterygoid muscle, and scarified the bone at the foramen. When the lancet reached the seat of the nerve, the pain he experienced was intolerable; and it was with difficulty he could sit till I cut the nerve completely. From this moment there was a sudden and satisfactory termination to all his sufferings, similar to what had occurred after the first operation in December 1819; and from this time he has continued well. The other day I saw him toiling in the field with apparently great enjoyment of life.

6, *George-Street*, 25*th August* 1821.

VIII.

Cases of Erysipelas successfully treated, chiefly by Venesection. By Andrew Duncan, Junior, M. D. Professor of Materia Medica in the University of Edinburgh.

The following series of cases, which occurred in the Clinical Wards of the Royal Infirmary during the present summer, appears to me to possess a degree of interest sufficient to justify their early publication. It seems calculated to remove a prejudice, very generally entertained by the profession, respecting the medical treatment of the Rose. After the abundant experience we have lately had of the safety and advantage of venesection in many diseases in which it was formerly prohibited, especially in continued fever arising from contagion, in small-pox with typhoid fever, and scarlatina with malignant sore throat, the extension of the same powerful remedy to another

febrile disease, with cutaneous inflammation, seemed to be naturally suggested. Yet, so far as I know, it has not been brought so fully to the test of experiment as in the series of cases in which I employed it.

During the spring and summer, erysipelas has occurred frequently, both in private practice and in the Hospital, not altogether without the suspicion of its being propagated by contagion; and I readily seized the opportunity thus presented, of ascertaining whether the ideas I had formed of the pathology of this disease were more correct than those generally entertained.

I am well aware that blood-letting has been, and perhaps is, often employed * in the treatment of erysipelas; but it is not a general practice; and the writers of greatest authority represent it as admissible only in certain cases and forms of the disease, of comparatively rare occurrence. In proof of this, it will be sufficient to quote a few of the most esteemed modern authors. Richter recommends, in the common febrile rose, laxatives and diaphoretics when the disease is slight, and emetics when it is more severe; and in the inflammatory rose, *erysipelas phlegmonodes*, he says the antiphlogistic treatment, and even detraction of blood, are here proper. "But in no other inflammations must we exercise so much caution in their employment as in the rose; especially when, at the same time, bilious symptoms are present. Commonly local bleedings are sufficient. Leeches are applied behind the ear, and sometimes it is necessary to repeat them. According to rule, it is only the rose of the face, which attains such a degree as to indicate the detraction of blood, especially when there are symptoms of sympathetic inflammation of the brain, violent headach, strong pulsation of the carotids, delirium, and coma. In such a case, sometimes even a small general bleeding is necessary; by which means, undoubtedly, the termination in suppuration, which is always dangerous, may be avoided." † Reil expresses a very similar opinion. "If the rose be complicated, especially with general fever, with inflammation of the brain and of the lungs; and if this fever, as well as the rose, have the character of synocha; if the patient be young, plethoric, and robust, we must let blood once and again, and, after the venesection, apply leeches. But blood must be drawn only when it is indicated, and not more than is indicated; especially as the rose is apt to arise in a con-

* Mead, Sydenham, Cullen, Burserius, &c. &c.

† Die specielle Therapie von D. August. Gottl. Richter. II^ter Band. Berlin, 1813, p. 225.

currence of circumstances which do not bear large evacuations of blood." ‡

Callisen does not even allude to blood-letting, when he enumerates the remedies employed in erysipelas. Similar cautions regarding the use of blood-letting in this disease, are given by the French popular writers on Surgery. Desault admitted two species of erysipelas, the bilious and phlegmonoid. In the former, which, he says, is the common and genuine form of the disease, he trusted entirely to antimonial emetics; and expressly observes, that "the disease was more obstinate and severe, when the patients had been bled before admission into the hospital, and especially when it had been twice or thrice repeated." * Renauldin, author of article Erysipèle, in the *Dictionnaire des Sciences Medicales*, also recommends the use of emetics generally, conceiving the disease to consist in a kind of bilious plethora; but adds, "that if the patient be vigorous, and of a sanguine temperament, there is not a better means of calming the violence of the symptoms than by opening a vein of the arm, or rather of the foot, when the erysipelas is seated in the head, and threatens that part with sanguineous conjections."

To show the general opinion entertained in our own country, it will be sufficient to quote one or two of the most popular authors. It is unnecessary to go farther back than the deservedly celebrated Mr John Pearson, who, in speaking of the treatment of acute erysipelas, says, "General bleeding is not recommended in this place as a cure for erysipelas, in the same sense in which it may be said to remove an inflammation; it is advised with the intention of obviating the effects produced in the system by so severe a stimulus as acute erysipelas. Indeed, cases very rarely occur in large towns where bleeding is at all admissible; and a repetition of the operation will very seldom be necessary or advisable."

In regard to œdematous erysipelas, he says, that "general bleeding is inadmissible, almost without exception. The propriety of topical bleeding is chiefly applicable to those cases where there is danger of an affection of the brain: but very great nicety is required in determining upon this evacuation, where there is the least disposition to a *metastasis*. I have seen the most dangerous symptoms immediately supervene, to the loss of a very small quantity of blood." †

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‡ J. de Reil Fieberlehre. I^ter^ Band. p. 369. 8vo. Hall, 1804.

* Œuvres chirurgicules de P. J. Desault, par Bichat. Tome 2d, p. 589. 8vo. Paris, 1801.

† Principles of Surgery, for the use of Chirurgical Students. By John Pearson. 8vo. London, 1808.

Dr Willan is equally hostile to venesection. "All the ancient writers, except Galen, recommend blood-letting as a principal remedy in the treatment of erysipelas. This practice must evidently be improper in the three forms of the disease last described; and even in the *erysipelas phlegmonodes* it does not always appear necessary. When the blood drawn is sizy, practitioners are often induced to bleed a second time; but we generally find, in London, that repeated blood-letting aggravates the symptoms, and protracts the disease. In a comatose, or apoplectic state, the application of leeches, or cupping-glasses at the nape of the neck, may be advisable." *

Dr Bateman follows Dr Willan in his cautions respecting blood-letting; and in the latest work which has reached me, and one of great merit, there is so guarded a recommendation of its use, that it would rather deter than encourage a young practitioner to have recourse to it. "I have rarely practised it myself; but when I have, the symptoms have abated in consequence, but the recovery has been protracted." †

These quotations are sufficient to show, that many of the chief authorities in pathology consider diffuse inflammation of the cutaneous texture as different in kind from inflammation of the cellular or serous membranes; or, at least, that the skin is most commonly attacked with an inflammation different in kind from that which commonly affects the other textures, and requiring an almost opposite mode of treatment; and they distinguish them by the names of adhesive or phlegmonic inflammation, and disjunctive or erythematic inflammation. But I have long been inclined to adopt a simpler view of the subject, and to consider inflammation, upon whatever proximate cause it may depend, as identical in kind, and differing only in degree, or in respect to the texture or functions of the part affected; and that, with slight modifications, the same treatment is adapted to all.

Formerly, it was considered as a problem of the greatest importance; and it certainly was one of the greatest difficulty, to be able to determine, in cases of general fever accompanied by symptoms of pectoral inflammation, especially when the local inflammation supervened, as it often did, towards the conclusion of the fever, what was the nature of the fever; because a very different treatment was supposed to be necessary in *pneumonic*

* On Cutaneous Diseases. By Robert Willan, M. D. 4to. London, 1808.

† Observations on some of the General Principles, and on the particular Nature and Treatment of the different kinds of Inflammation. By Q. H. James, Surgeon to the Dover and Exeter Hospital. 8vo. London, 1821. pp. 245.

typhus, as the disease was called, from what was necessary in pure inflammatory pereumonia. Often have I seen the most urgent inflammations of the lungs treated with large doses of camphor, musk, opium, wine, and even brandy, because it was accompanied with typhus fever; and although dissection showed the same pathological changes that occurred in the purest synochal inflammation of the lungs, still venesection, and even a simple purgative, was dreaded, as, from the character of the fever, all depletion was held to be inadmissible. This error is now pretty generally exploded; and when symptoms of local inflammation of an important organ occur, we do not hesitate to bleed locally and generally, even though the accompanying fever should be of that type commonly called typhoid, and, in fact, we find that the fever is relieved at the same time with the inflammation. Local inflammation may, and every day does occur, in persons the most debilitated, whether from preceding febrile or chronic affections; and it can only be counteracted by the same remedies, modified in degree and application, which are used against it in the most vigorous individuals.

But as I believe that there is no such thing as typhoid, or asthenic inflammation, neither do I conceive that the disease differs in kind, or requires an opposite treatment because it attacks a different texture, and is diffuse and erratic, instead of being limited and fixed. In scarlatina, of which a principal symptom is diffuse and somewhat erratic inflammation of the skin, cold water, purgatives and venesection, have been successively employed with increasing advantage; and the treatment of angina maligna itself requires the same general remedies to be employed with greater boldness, with attention to the local symptoms. The transference of the same therapeutic principles to erysipelas was obvious; and experience has, I think, supported the theory.

Cases.

Case I.—Catherine M'Donald, æt. 24, married, nursing.—13*th May*.—Is affected with tumefaction of a dusky red colour, and pain, of the face and scalp, with coma, and a partial loss of memory. The palpebræ are closed, and discharge a little purulent matter. She complains of general soreness, sickness, and inclination to sleep, without the power. Pulse 114, full and strong; heat 96; respirations 30; skin hot; tongue whitish, dry in the middle, and moist on the edges.

Complaints commenced on the 6th inst., with general soreness and pains, chiefly affecting her head and face. Next day, redness, pain,

and swelling of the face and scalp came on, with large blisters on her cheeks, which, when punctured, discharged a watery fluid. Has taken some opening medicines; has also had fomentations and a vomit, from which she thinks she was worse.

Mittatur sanguis ad ℥xx. Sumat bolum jalap. composit.

14th.—Was bled to twenty ounces; blood buffy and cupped, with copious serum; seven stools from bolus; had a restless night, from frequent retching of much tough phlegm; inflammation gone from the face, which has desquamated; it is still however swelled, especially on the left side; can open her eyes; and complains only of sickness; pulse 106, still hard; heat 98; skin natural; tongue foul and parched, with bad taste; great thirst; urine natural.

Impon. vesicat. sat amplum pone aurem sinistr. Repet. V. S. ad ℥xx.

15th.—Bled to twenty ounces; blood presents a thick buffy coat, with copious serum; blister rose well; had a bad night from sickness; moans a great deal; eyes water much; left temple swelled, tense, and puffy, tender on pressure; some torpor; but complains of want of sleep, and of severe soar throat; pulse 100, not full; tongue foul; very bad taste of mouth; no dejection; urine lbj., high coloured, with a light cloud; epigastrium tender.

Admov. hirud. xx. epigastrio.

℞ Sulphat magnes ℥j. Tartrat. antimon. gr. iv. Aquæ ℥xij. capiat ℥j. omni hora.

16th.—Was relieved by the leeches; erysipelas gone; she continued to improve, complaining principally of bad taste of mouth, and tenderness of epigastric and umbilical regions, till the 21st, when she was perfectly convalescent.

Case II.—Helen Finlay, æt. 30, nursing. Was admitted a patient into the Clinical Wards on the 7th May, for a severe affection of the head, arising from a blow. On the 11th, an incision was made on the tender part, down to the periosteum, which gave instantaneous relief; and she continued well till about three P. M. on the following day, when she was attacked by a severe pain around and within the left ear, which she described as being unlike the former pain. On the 13th, it had increased over the left temple, and darted towards the eye; the parts were tender and puffy; but there was no appearance of external inflammation. A second incision was accordingly made, which gave great pain for several hours, but relieved the pain of head and fulness of ear.

Applic. cataplasm. capiti et postea curetur incisio unguento hydrargyri.

15th.—Scarcely any pain of the head; but complains of stiffness of the neck.

16th.—Bad night, from pain of the incision; lymphatics of left side of the neck swollen, hard, and very tender, with great stiffness, and general tenderness of the neck.

17th.—Pain of neck and head a little relieved by fomentations; it is still, however, very severe; had a bad night, and has been sick; she has also had frequent cold and shivering fits, succeeded by flushing and sweating of left side of the face, which is swollen and very tender; no feeling in the wound; pulse 120, febrile; tongue foul; no appetite; great thirst; six dark dejections from salts.

Emittant. stat. sanguin. ℥xx. et Repet. fot. sæpies indies.

18th.—Bleeding quickly relieved the severity of the pain; had a bad night, from pains and retching; wound disposed to slough; face more swelled, and neck is very tender; pulse 120; skin very hot; tongue thickly furred; no appetite; great thirst; five watery dejections; urine turbid.

Repet. V. S. ad ℥xx. Let hot dressings be applied to the wound.

19th.—Twelve ounces of blood drawn with relief; in one vessel, blood buffy and cupped, in the other not; hot dressings agree; passed a bad night, sensible in the earlier part, but very delirious during the latter; complains much of sickness, but of no pain; great retching; wound suppurates freely; edges inflamed; the nape of the neck, and all the left cheek, are very much swollen, red, and very tender on pressure; left eye closed; epigastrium tender; pulse 130, full; heat 105°; respirations 40, and laborious; skin ardent and dry; tongue very foul; no appetite; great thirst; four loose stools.

Admov. vesicat. satis amplum inter scapulas; et hirud. xx. epigastrio.

20th.—Leeches bled well, with great relief; blister has not operated well from frequent shifting; was very restless and delirious during the night, but is more composed this morning; swelling of face increased; both eyes completely closed; redness less vivid, and in patches, with defined margin in some places; considerable hardness at the nape of the neck; pulse 116, soft, natural; heat 104½; respirations 28; tongue very foul; no appetite; great thirst; two dejections; urine lbj., with a slight cloud.

℞ Sulphat. magnes. ℥j. Tart. antimon. gr. iv. Aquæ lbj. capiat ℥ij. omni bihorio.

21st.—Only three doses of solution taken; has been in a state of constant delirium since yesterday's visit; face more swelled; both eyes still closed; some desquamation; desires drink, but appears to have some difficulty in swallowing. Pulse 126, rather weak; heat 104½; tongue very foul; no stool since the 19th; a purgative enema given immediately before the visit being partially returned with little feculent matter.

Repet. stat. enema purgans. Sumat. tinct. convolv. jalap. ℥ij. omni bihorio incipiens statim. Intr. alia.

22d.—Clyster produced several copious alvine evacuations; had a bad night; was very delirious, talking constantly; four doses of tincture taken, and four stools passed unconsciously; face still much swollen; the skin is corrugated, and there is considerable desquamation; eyes

closed, with purulent discharge. Pulse 124, of moderate strength; heat 104½; respiration easy; skin hot to feel; no appetite; great thirst; urine dark, with sediment; blister discharges freely.

Intr. tinct jalap. Injiciatur statim enema purgans. Admoveantur fronti hirud. xij. et sumat statim haustum anodynum antimonialem.

23d.—Injection brought away a good deal of natural loose stools; nine leeches bled well; anodyne draught procured deep sleep till two this morning, when she awoke free from delirium; and she makes no complaint. Erysipelas still of a lively colour on the chin. A dark-coloured erysipelatous redness is spreading over the shoulders and neck; there is also a considerable bruise on the right hip from lying, of a dark colour, without surrounding erythema; swelling of the upper part of the face much fallen. Pulse 104, small; heat 100; respirations easy; skin cool; tongue foul; great thirst; two small loose stools. Asked for food this morning.

Admov. hirud. xij. summo sterno. Illinatur pars contusa tinct. saponis cum opio. Let her have a pound of beef-tea.

24th.—Twelve leeches bled well, and she appears more composed; makes inquiries after her child; slept little during the night, but there was no delirium; called frequently for drink; has taken a little bread, softened with warm water; had three loose stools last night; and a purgative injection given this morning brought away some natural feces; passes urine in bed, but consciously; upper part of the face much less swelled, and desquamating freely; erysipelas spreads downwards, both on the back and around the neck, and she makes little complaint; bruised spot on the sacrum has no surrounding inflammation, it is very black and hard, and does not appear to be deep. Pulse 124, rather feeble; heat 102; respirations 28; tongue foul, but moist; little appetite; great thirst.

Capiat acidi sulphurici aromatici gtt. xx. ex aquæ cyath. omni bihorio.

25th.—Had a copious natural stool last evening, and felt great relief from bathing her face and eyes, which enabled her to open the eyelids; slept till one this morning, without any delirium; and when she awoke, was quite sensible, and appeared refreshed; erysipelas continues to spread down the back. Pulse 128, of more strength; skin natural; tongue white and coated; thirst not so great; one loose stool; urine, lbii. with very copious whitish sediment.

Contin. acid. sulphuric. aromatic. Let her have tea when she wishes it.

26th.—Medicine taken five times; had a good night, and appears more composed. Erysipelas spreading down the back, but not so florid or tumid; complains of bad taste and debility. Pulse 100, of moderate strength; heat 98; tongue rather dry; appetite tolerable; thirst not so great; five stools; urine abundant.

Contin. acid. sulphuric. aromatic.

27th.—Had a good night, and took some food yesterday evening

with relish; reports herself much better, and tired of lying; erysipelas continues to spread, but the colour is more faint; bruise on the hip is stationary; no return of the original affection of the head. Pulse 90, intermitting; heat 98; tongue white and coated; appetite and thirst moderate; four greenish loose stools.

Contin. acid. sulph. aromat. Let her have, at her own desire, four ounces of currant jelly, and half a bottle of porter, daily.

28th.—Porter taken, and agrees; had a tolerable night, and thinks herself better; dozes frequently; erysipelas not spreading, and the redness is very faint. Pulse 96, intermitting; three dejections.

Contin. omnia.

29th.—Had a tolerable night; discoloration of skin nearly gone; and there is some slight livid tumefaction of the eyelids. Pulse 98, of good strength; tongue dry; appetite much better; three dark dejections; urine lbiss.; considerable listlessness and debility.

Intr. medicam. Let her have half a pound of steak daily, with four ounces of port-wine made into negus.

30th.—Erysipelas has terminated, and the functions are become natural.

Case III.—Elizabeth Morrison, æt. 23, servant. Was admitted into the Clinical Wards on the 12th June, for a severe attack of pleuritis, for which she had been bled to 30 oz.; and purgatives, blisters, and colchicum had been used. She had nearly recovered, when, on the evening of the 17th, she had a shivering fit, followed by coldness during the night, and a flushed face next morning; there was also great febrile excitement, headach, and pain of the back. Pulse 140, sharp; respirations about 60, irregular; great perspiration; tongue tremulous, with white fur; great thirst; no appetite; no dejection.

Emitt. stat. sanguin. ℥xx. Injiciatur enema purgans. Bibat etiam potum vegetabilem acidum ad libitum.

19th *June.*—Only 14℥. of blood were obtained; gave considerable relief; blood buffy and cupped, with copious serum; had a bad night from thirst and sickness, with much delirium; has great headach; pulmonic affections have ceased. Pulse 132, neither full nor hard; skin hot, but moist; tongue white; no appetite; great thirst; four stools; urine lb iss. with a cloud.

Abscindatur coma. Contin. potus.

Hor. octav. vesp.—Has severe pain in the left breast, which is swollen, red, and very tender. Pulse 140, hard and sharp; heat 101½; tongue white; bowels not open; urine high coloured.

Repet. V. S.

20th *June.*—Bled to fourteen ounces, and felt relieved; blood very buffy and cupped, with copious serum; hot fomentations of vinegar and water gave great relief to the breast; was attacked during the night with vomiting and purging; vomiting abated on taking three doses of a mixture of magnesia and rhubarb in peppermint water;

breast not so painful, and is less swelled. Pulse 108; heat 101; tongue not so white; frequent dejections.

Repet. fot. acet. tepid. Capiat infusi colombæ ℥ij. omni bihorio.

21st.—Six doses of bitter infusion taken; fomentations once used; pain, swelling, and redness of breast much diminished. Pulse 100, good strength; two stools.

Contin. infus. colomb. Let her have ℔j. beef-tea daily.

22d.—Has pain of bowels, which she ascribes to the mixture; left breast easy and less swelled. Pulse 100, good strength; three dejections.

Intr. infus. colombæ. Capiat sulphat. magnes. ʒj. ex aquæ cyath. bis indies.

23d.—Had a slight return of pain in the left breast last night; relieved by the fomentations; is not so much swollen, but tender on pressure; no redness; begins to desquamate. Pulse 108, good strength; one dejection.

Contin. fot. aceti mammæ sinistræ. Capiat elect. laxantis ʒj. omni hora ad catharsin.

24th.—Breast quite easy.

25th, 26th.—Improves generally. 27th.—Convalescent.

Case IV.—Catharine M'Intyre, æt. 20, servant, full habit. Was admitted into the Clinical Wards on the 10th June for continued fever, for which she had been treated antiphlogistically with copious venesection, and a blister had been applied to the sternum. On the 19th, a diffused inflammation appeared on the left breast, which is swollen, painful on pressure, but not much indurated. Passed a bad night. Pulse 120, moderately full; heat 101; skin hot, and very moist; face flushed; great headach; no delirium; tongue white; no appetite; great thirst; three dejections; urine ℔i.

Emittant. stat. sanguin. ℥xx. Sumat etiam sulphat. magnes. ʒj. cum tartrat. antimonii gr. ij. ex aqua.

20th *June.*—Solution operated twice, with some sickness; twelve ounces of blood drawn; felt great relief at the time; blood buffy, cupped, with copious serum; had a good night after an anodyne antimonial draught; pain of breast abated, but redness and swelling continue. Pulse 112, small and sharp; heat 102; skin hot; tongue white; two dejections.

Contin. mist. sulphat. magnes. et tartrat. antimon.

21st.—Had a good night, without the draught; pain of left mamma nearly gone, except on pressure; less general swelling, but the redness continues without any vesications. The right breast is also affected; especially the lower part, where it is red and swollen, without any pain. Face not so flushed; less headach; and she is, upon the whole, much better. Pulse 116, somewhat sharp; tongue white; less thirst; two dejections; urine high-coloured.

Contin. omnia.

Hor. octav. vespertin.—Left breast much more swollen, and painful; and the redness is extending rapidly, of a more dusky colour, and some large vesications have arisen. The right is swelled and inflamed; but not nearly so much as the left. Countenance flushed, and anxious. Pulse 118, of good strength; heat 101; skin hot; tongue white; urine dark, with a cloud; two dejections.

Emitt. sang. ℥xxx.; let the dilute saturnine solution be applied to the breasts, both of which are to be suspended by bandages around the neck.

22d.—Pain very much diminished, as well as the swelling and redness; blood buffy; crassamentum contracted, with copious separation of serum. Cold lotions applied constantly, and felt comfortable; vesications on left breast broken; face still somewhat flushed, but lips very pale. Pulse 126; heat 101; tongue white; two dejections; urine two pounds.

Contin. lotiones frigidæ, et bibat potum acidum vegetabilem ad libitum.

23d.—Tolerable night; lotions applied; but she has more pain in the left breast; and two small, but rather deep, ulcers have succeeded the first vesications. There are also several fresh blisters on the left mamma. The dusky red colour is increasing, and there is much œdematous swelling; there are also some small ulcerations on the lower part of the sternum, where the blister was applied for her former affection. Face less flushed; no delirium; headach continues. Pulse 124, of good strength; heat 101½; skin warm; tongue white; little appetite; great thirst; four dejections; urine free.

Curentur ulcera unguent. acetatis plumbi. Contin. lotio frigida. Capiat bolum jalap. composit.

24th.—Breast still swelled; and she says there is no pain except in the ulcers. Pulse 114, good strength; tongue white; no appetite; great thirst; three dejections; countenance natural.

Contin. medicam.

25th.—Had a good night; but complains of violent pain of head and abdomen. Pulse 110; heat 103; three watery dejections.

Continue.

26th.—Shortly after the visit, was seized with rigors, lasting about an hour; and a large vesication appeared on the left mamma. The left side of the neck was also much swollen. Twelve leeches were immediately applied to the neck; and the body was sponged with cold water. Had a bad night from rigors, which were relieved by an anodyne camphorated draught.

27th.—Has no pain; ulcers in breast granulating; no dejection since the 25th.

Capiat stat. pil. colocynthid. gr. x. et repet. omni bihorio ad catharsin.

28th.—Bowels freely open from ten pills; inflammation of breast has subsided; the new vesications have desquamated, and the ulcers are granulating rapidly. Pulse 116; heat 100½; tongue white; skin natural; appetite indifferent; urine free.

Contin. unguent. Intr. alia.

29th.—Good night; erysipelas gone; parts have desquamated, and the ulcers are healing.

CASE V.—ISABELLA LAIDLAW, æt. 30, servant, married. Was admitted into the Clinical Wards on the 13th June, affected with *cynanche tonsillaris.* On the 19th, complained of the left temple, which was swollen, red, and very painful. She observed it first on the evening of the 17th. Pulse 120, small; tongue foul; no appetite; great thirst; five stools; urine lbj.

Applicentur tempori affecto lintea solut. dilutior. acet. plumbi madida.

20*th June.*—Cold lotion agrees; had a good night; and pain of left temple is diminished. There is still, however, considerable redness and swelling. Pulse 112; bowels not open; tongue white; urine scanty.

℞ Sulphat magnes. ℥ j. Infus. sennæ ℥ vj. Solve. Capiat ℥ iij. omni bihorio ad catharsin. Contin. lot. frigid.

21st.—Cold lotions continued; and three doses of senna have operated well. Erysipelas is now almost gone.

22d, 23d, & 24th.—Improves generally.

CASE VI.—MARY DUNSMORE, æt. 54, married. Admitted into the Clinical Wards on the 16th May, bedfast with chronic diarrhœa for many months; had a bad night on the 21st June, from return of pain in the ear, lately complained of; and it is now very red and tender, where a blister was formerly applied. On the 23d, the erysipelatous redness, with little swelling, and no pain, began to extend over the cheek; pulse 120, small; skin dry; tongue foul; no appetite; great thirst.

Applic. solut. acet. plumbi dilutior parti inflammat.

24th.—Erysipelas has declined upon the left ear, but is very vivid on the left cheek, and is extensively spread on the right cheek and brow; pain has abated since the cold lotions; no vesications; and the tumefaction is considerable; pulse 100, rather small; tongue foul; no appetite; thirst urgent.

Habeat vini rubri uncias sex indies forma potus. Contin. lotio frigida.

25th.—Vomits every thing but the wine; erysipelas spreading, and of a dark red colour; left ear swelled; pulse 100, small.

Continue.

26th.—Great headach; erysipelas now covers the whole face, except the lips and chin; colour rather dark; considerable tumefaction; no vesications; no vomiting; pulse 98; tongue red, not foul; great general debility.

Habeat vini rubri ℥viij. indies. Contin. lotio frigida.

27th & 28th.—Feels easier; redness and swelling of the face declining; and the cuticle is desquamating.

29th & 30th.—Improves generally; erysipelas gone.

Case VII.—Elizabeth Nelson, æt. 29. Was admitted into the Clinical Wards on the 20th June, for an œdematous affection of the right leg, with great thickening of the skin, resembling elephantiasis. On the morning of the 25th, was attacked with pain of left leg, and shivering; and, in the evening, erysipelas was observed. She passed a bad night, and on the following day had great headach; face much flushed, and swollen; pulse 115, full; tongue very much coated; no appetite; great thirst; no dejection; urine high-coloured.

Emitt. stat. sang. ℥xxx. Capiat infusi sennæ ℥iij., et repet. omni tertia hora ad catharsin.

27th.—Bled to twenty-six ounces, and fainted; three doses of senna operated well; left leg not so red; countenance natural; pulse 92; urine lbj., light-coloured.

28th.—Three doses of senna taken, produced three dark-green dejections; a fresh patch of redness has appeared upon the calf of the left leg, but not very vivid; the former rose has declined; tongue foul, with bad taste; urine scanty and turbid.

29th.—Erysipelas gone, but considerable œdema remains. *Hor. octav. vespertin.* Has been complaining of pain of head, and heat of skin all day; and was attacked, this evening, with a burning pain of the right thigh, which is generally affected with swelling, of a deep scarlet colour; countenance flushed; has headach; skin becoming moist; no dejection; pulse 112, small and hard.

Emitt. stat. sang. ℥xxviij. Injiciatur statim enema purgans.

30th.—Bleeding gave great relief; blood cupped and buffy; injection operated well; had a tolerable night; redness of the thigh much less vivid, but spreading; no vesications; pulse 76, small; tongue white; four dejections.

1st July.—Redness disappearing on the thighs, but is spreading up the hip and back; pulse 88, natural; skin moist; tongue much furred, with bad taste; one dejection; urine one pound, high-coloured.

Sumat pil. colocynth. gr. x. bis indies.

2d.—Erysipelas disappearing, and has not been so well for two years past.

Case VIII.—Mary Adams, æt. 80. Was admitted into the Clinical Wards on the 27th June, affected with general tumefaction of the face and head, of a deep red colour, and accompanied by a painful burning sensation in the parts so affected; eyes nearly closed; pulse 120, small, rather hard; respirations 26; heat 96; tongue clammy, coated white; no appetite; great thirst; bowels open; urine sometimes scanty.

On the morning of the 24th, was seized with rigors, shortly afterwards followed by pain, swelling, and redness of the face and head. Rigors have been frequent since the attack; and the erysipelas has become worse daily.

Emitt. sang. ℥viij.

28th.—Pain and swelling of face abated since the bleeding; blood

slightly buffed, and cupped; feels greatly better; face not so red; eyelids begin to desquamate; vesications on nose full. Pulse 86, soft; heat 98; tongue loaded; appetite good; thirst moderate; no stool; urine less natural.

℞ Sulphat. magnes. ℥j. Tartrat. antimon. gr. iv. Aquæ fontan. ℔j. Solve. Capiat ℥ij. omni hora.

29th.—Solution operated well; colour and swelling of upper part of the face greatly diminished, and feels much better. Pulse 76; tongue dry and clean; thirst less; one stool.

Contin. solut. sed capiat ℥j. solummod. omni bihorio.

30th.—Eight doses of solution taken, followed by seven stools; face much improved. Erysipelas does not spread.

July 1st.—Face desquamating; continues to improve. 2d, 3d, 4th, —Improves in every respect. 5th.—Convalescent.

Case IX.—Angus M'Kay, æt. 38, fisherman. Admitted into the Clinical Wards on the 26th June, affected with sore throat resembling sibbens. On the 9th of July complained of a painful swelling in the cartilage of the left *ala nasi*, which subsided on the application of a leech. On the 12th, the same part of the right *ala nasi* was similarly affected; and the pain abated considerably on the application of a leech. On the 14th he complained of swelling and pain in the parotid and sub-maxillary glands; with some salivation from mercury, which was intermitted. On the 15th, about 12 *a. m.* was seized with coldness. Pulse 96, strong and throbbing; tongue furred, and dry in the middle.

Emitt. sang. ℥xx. et hora somni habeat haust. anod. antimon.

16th.—Venesection gave some relief; blood showed no buff, and little serum; complains much of pain of throat, which is swollen both internally and externally. Pulse 130, full; heat 101; great thirst; slight cough.

℞ Olei crotonis tiglii gtt. j. Olei ricini ℥ss. Aq. menth. pip. Aq. font. ā ℥ss. Fiat haust. stat. sumend.

17th.—Bowels open from the draught; has great difficulty in swallowing; external swelling of fauces greatly increased; nose swollen, hard, and red.

Admov. faucibus externis emplastrum vesicatorium, et ℞ Tartrat. antimon. 3j. Aquæ ℥ij. Solve. Capiat 3j. omni semihora sine potu ad vomitum usque.

18th.—Vomited some greenish matter, after two doses of the solution. Blister applied round the throat; but it is much more swollen, especially on the left side. Inflammation of the nose increases, and is spreading over the cheeks with great pain; the throat appears to be inflamed internally, and his tongue is very red and coated; eyes inflamed, and discharge purulent mucus; feels much weaker; slight delirium. Pulse 128, full; heat 102.

Intr. medicam. Emitt. stat. sang. ℥xxx. et Capiat tinct. digit. gtts. xii. quater in dies, ex mist. mucilaginosæ ℥ij.

19th.—The abstraction of 30 oz. of blood gave great relief; and 24 oz. more were taken with additional relief. Blood very buffy; slept well, and feels better; swelling is more diffused, but there is little redness. Bullæ have scabbed on the centre of each cheek; eyes closed, and discharge purulent matter. Pulse 108; large. Appetite tolerable; thirst much less; bowels costive. Tongue red, and horny in the centre; furred at the edges.

℞ Sulphat. magnes. ℥j. Infus. sennæ ℥vj. Solve. Sumat ℥iij. statim, et repetatur dosis si opus sit. Let him have ℔ss. beef-tea daily.

20th.—Face still much swollen, and eyes closed, without great redness. Tongue red, tremulous, horny, and cracked in the centre; furred on the edges. Pulse 116, large and strong; heat 104; skin pungent, without perspiration; great thirst; appetite tolerable; bowels very open from medicine.

Intr. solutio purgans. Repet. V. S. et eliciantur sang. ℥xxx. Bibat diluentia tepida.

21st.—Twenty-eight ounces of blood taken with some relief, but he feels rather weaker; blood not so much buffed as formerly, with scanty separation of serum; considerable wandering; pulse 112, full and large, not hard; tongue nearly as yesterday, but horny stripe is narrower; bowels regular; makes no complaint.

Contin. pot. tepid, et foveatur facies aqua tepida cum lacte.

22d.—Is delirious, but is sensible of it. Erysipelas much declined, and does not spread; reports himself easy; pulse 116, full; tongue red, and very foul; no swelling of salivary glands; thirst less; appetite bad; bowels regular.

Sumat stat. sulphat. magnes. ℥iss. ex multa aqua.

23d.—Improves generally; eyes open; pulse 68, full and firm.

24th, 25th, 26th, 27th.—Complains only of weakness; convalescent.

Case X.—*July 12th.* William Latimer, æt. 36, coachman. Complains of headach and pain of back, with a sense of coldness in the breast and limbs. Has a slight cough, with increased secretion of saliva, and some viscid expectoration. The velum and uvula are also covered with small white specks. Puse 108; heat 101; skin hot; tongue loaded; bowels regular; urine high-coloured.

On the 8th inst. was seized with pain of back and limbs, accompanied with rigors, having been exposed, on the 6th inst., in wet clothes.

Cap. stat. bol. jalap. composit.

13th.—Awoke, in the latter part of the night, with pain of right cheek, shooting to the ear; and it is now covered by a flat circumscribed swelling, of a pale livid colour. Cough short and frequent, with considerable expectoration; no pain of breast; pulse 108, full; heat 102; tongue very much loaded; bad taste of mouth.

Fiat stat. V. S. ad ℥xx, et foveatur gena aquâ calidâ cum aceto.

14th.—No obvious effect from bleeding; blood very buffy; had a bad night; and the inflammation now extends over the whole cheek;

the ear is worse, and covered with large vesications; great swelling behind the angle of the right jaw; no sickness, or pain of epigastrium; pulse 116, full; heat 101; tongue loaded.

Intr. medicamenta et ℞ Tartrat. antimoni. ʒi. Aquæ fontan. ℥ii. solve. Capiat ʒi. sine potu omni bihorio.

15th.—Eight doses of solution taken. Vomited some tough, green, ill-tasted matter, after the third dose, and only once after. Quiet night, without sleep. Redness and swelling extend, but pain not so great; right eye nearly closed, and vesications on the right cheek scabbed; some nausea, with bad taste of mouth; pulse 116, of good strength; heat 100; tongue loaded; bowels open; no delirium.

Contin. solut. tartrat. antimon.

16th.—Medicine taken several times without producing sickness. Feels weaker, and complains greatly that he has no sleep. A large vesication has burst on the left cheek. Tumefaction and redness extend down the right side of the neck; pulse 116, not so full; heat 99; tongue loaded, and dry in the middle; appetite better; thirst great; bowels open; no delirium, or pain of epigastrium.

Intr. solutio tartrat. antimon. et sumat statim haustum anodynum antimonialem.

17th.—Antimonial opiate draught gave great and immediate relief. Has slept well during the day and the night. Erysipelas does not extend; bullæ all scabbed; pulse 100; bowels open; urine natural; little thirst.

Repet. haust. hora somni.

18th.—Great pain of head, rendered very acute on the least motion, prevented sleep. Feels as if his head was greatly enlarged; face and right ear desquamating; left ear acutely inflamed, and the erysipelas extends down the back of the neck; pulse 108, moderately full; heat 99½; appetite bad; great thirst.

Emitt. sang. ℥xx. et ℞ Tartrat. magness. ʒj. Tartrat. antimon. gr. iv. Aq. fontan ℥x. Sumat. ℥ij. omni bihorio.

19th.—Slight relief from the bleeding; and, as the blood presented an uncommonly thick buff, and there was no alteration in the pulse, twenty ounces more were taken in the evening with decided relief. The blood from the second bleeding also had a very buffy coat. Had a good night; complains of sore throat, and speaks in a whisper. Erysipelas does not spread; sensation of enlarged head has ceased; no delirium; heat 100; takes no food, but desires acids.

20th.—Progress of erysipelas has been checked, and the skin begins to return to its natural colour. 21st, 22d, 23d.—Complains of weakness. 24th.—Convalescent.

I have preferred giving an abstract of each of the cases which occurred during the course, to making a selection of those which might appear to me most striking and conclusive in favour of my opinions; because the history of the epidemic, if it may be so called, is thus rendered much more complete and authentic.

In this way, not only a just idea of the general form of the disease is communicated, but also the comparative frequency of the symptoms, and the variety of their combinations, may be judged of.

There can, I think, be no reasonable doubt that all these cases were essentially the same disease; differing in extent, severity, duration, and in some of the external symptoms. According to Cullen's Nosology, they are all referable to the order of Exanthematous diseases, or diseases in which a cutaneous eruption, or inflammatory state of the skin, is preceded by general pyrexia. And here I cannot avoid expressing my regret, that Willan, to whom we are so much indebted for the introduction of a definite terminology adapted to cutaneous affections, and to the fuller exemplification of the advantages to be derived from attention to precision in the description of disease, should have employed the term Exanthematous in a totally different sense from preceding writers; and thus have given rise to confusion, while he leaves the characteristic character of a most natural family of diseases without a common name. Of the genera into which Cullen has divided the order Exanthemata, the only genus to which these cases can belong, is Erysipelas; although some of them, from the absence of all vesication, do not correspond with the definition of any of the species. To suit them and similar cases, a species, which might be called *Erysipelas læve*, should be added. Cullen's distinction between Erysipelas and Erythema, although very generally overlooked, is well founded, and truly philosophical.* The external appearance in both may be exactly alike; but in Erysipelas it is symptomatic of the general affection, in Erythema it is primary; and the general affection, if any be present, is only symptomatic. Erythema may be at any time excited by applying a sinapism to any part of the body. The skin will be affected in a manner very much resembling the external character of erysipelas; but the essential difference of the two diseases is obvious. The one is a simple Phlegmasia, the other an Exanthema; the one Erythema, the other Erysipelas.

The varieties of the disease, as observed in these cases, is irreconcileable with Willan's Nosology of Cutaneous Diseases, now so generally followed, which would require them to be referred not only to different genera, but even to distinct orders. In five of the cases, Nos. 2, 3, 5, 6 & 7, there were no vesications. These are, therefore, to be referred to Willan's order

* An Essay on the Diagnosis between Erysipelas, Phlegmon, and Erythema. By George Hume Weatherhead, M. D. 8vo. London, 1819.

of *Exanthemata*, or rashes, and to his genus *Erythema*. Vesications occurred in the other five; which, therefore, belong to the order *Bullæ*, and the genus *Erysipelas*. But assuming, as I do, that the disease in all was essentially the same, a Nosology which dissociates them on account of the difference of an accidental symptom, cannot be founded on proper principles. Even if the presence or absence of vesications indicated distinct degrees in the severity of the disease, the objection would be valid; but this is not the case; for No. 2, where there were no vesications, but only, as in *Scarlatina*, extensive desquamation, was one of the most severe, while No. 4. and 8. were comparatively slight. The insufficiency of the presence or absence of vesications to constitute an essential distinction in this disease, was strikingly exemplified in cases Nos. 3. and 4., in which it occurred at the same time, and affected the same part, the mamma.

In No. 4, the form and mode of the eruption exactly resembled *Pompholyx solitarius*; but the inflammation round the bullæ, and the fever, are inconsistent with Bateman's description of that genus. It was characterized by the vesications appearing in the form of a few large hemispherical bullæ, distinct from each other; and thus presented a very different appearance from common erysipelas, in which the eruption consists of numerous confluent vesicles. It might almost be considered as an example of *Pemphigus*, the very existence of which Dr Bateman doubts, though upon insufficient grounds; and I may here mention, that I have lately seen, in private, a case of undoubted *Pemphigus*, or of idiopathic fever, in the course of which phlyctenæ, or vesications of considerable size, with an inflamed and very painful base, appeared on the fingers and hands, and in the roof of the mouth. The disease occurred in a young lady, and did not affect any other individual in the family. Its duration was about 14 days; and it terminated in the desquamation of large pieces of cuticle, as in scarlatina. In short, it was a case of continued fever, with bullous eruption as a symptom. Dr Willan suggests, that cases such as that now described are instances of erysipelas, with some slight variation; and certainly the distinction between the two diseases is not essential.

From the review of these cases, as well as from many others formerly observed, Dr Willan does not appear to me to have succeeded in establishing real distinctions between the species into which he has divided the genus Erysipelas. *E. phlegmonodes* is described as differing from *E. œdematodes*, in the inflammation being more acute in the former, and the cellular effusion being greater in the latter. The difference appears, however,

to be only accidental, and arising from the constitution of the person affected, and the greater or less abundance of loose cellular membrane in the part. What is of more importance, the inflammation and effusion are often directly, and not inversely, as each other, in degree; so that we see a high degree of inflammation connected with great œdema. This took place especially in No. 9, also in No. 1, 2, 3, 4, &c. When there is much cellular effusion, the paleness of the colour is the effect of mere mechanical distension, and not a mark of less active inflammation. Nor does the occurrence of small phlegmons, during or after the erysipelas, constitute an essential character. They were observed in No. 2, 4, 9 and 10, which otherwise differed considerably.

Willan's third species, *E. gangrænosum*, is characterized by its mode of termination, rather than by an essential difference in the disease; and Bateman distinctly allows, that it commences like one or other of the preceding species. When it has a tendency to occur, it may be prevented by proper treatment; and there is little doubt that it may also be produced by improper treatment, when there was no tendency to it. Excepting one case, which came on after venesection, and terminated fatally, and which I shall take another opportunity of describing, no case of *E. gangrænosum* occurred in this course. The case most resembling it in the livid colour of the inflammation, was No. 10.; but whether owing to the active treatment employed or not, it did not terminate in gangrene, and the convalescence was good. In No. 2. there took place two considerable gangrenous eschars on the *nates*, but these parts were not affected with erysipelas; and the affection was entirely the consequence of continued pressure in a system under febrile derangement,—an occurrence which we have had too many opportunities of observing in the late epidemic fever, in spite of the utmost attention to cleanliness, and to the means of obviating the effects of pressure.

Willan's last species, the *E. erraticum*, is characterized by a phenomenon which is rather common to the genus, than characteristic of a specific difference. Mr Pearson considers the progression of the inflammation as belonging to the *E. œdematodes;* but it is not less frequent in the *E. phlegmonodes*, and perhaps more so in the *E. gangrænosum*. The only cases in which the erratic nature of the inflammation did not distinctly show itself, were Nos. 3. and 5. In most of the others, especially Nos. 2, 7 and 10, it was very remarkable; and Mr Pearson's remark, that each renewed accession of the complaint was less and less severe as it receded to a greater distance from the part first affected, was finely exemplified; or, that although the

extent of the first and second accession was very evident and well defined, yet it was, in some of the cases, impossible to say when they ceased to take place, as at last the redness amounted to little more than a blush. The most striking instance of this was in No. 6, when, after the redness was observed from the ear and forehead down to the breast, it was traced no farther; yet the whole cuticle of the hands and feet afterwards peeled off, as in *Scarlatina*, showing that the affection had travelled over the whole body.

Of the ten cases, three only were admitted affected with the disease, and seven were seized with it in the wards. I could not, however, satisfy myself that it was owing to contagion in any instance. The first female case was admitted with the disease on the 13th of May; in the second, the nature of the disease was not recognised till the 15th; but it is probable that it began on the 11th, before the admission of the first, with whom she had, moreover, no communication. She might, however, have derived her disease from contagion, as in the Surgical Wards most of the patients on whom slight operations were performed, were liable to be affected with the disease; and she had had incisions made on the scalp on the 10th and 13th. In the same manner, in the Men's Ward, the first patient, No. 10, was admitted affected on July 12th; and a patient already in the ward, No. 9, was seized on the 16th; but they could have had communication only indirectly, as No. 10. had never been out of bed. In all the patients seized in the wards, its commencement and seat seemed to be determined by some previous irritation. In No. 2. it commenced on the head, near an incision made upon the scalp. In Nos. 3. and 4. it attacked the mammæ, and both patients had had blisters applied to the breast. In No. 6. it came on after a blister applied behind the ear; and in No. 9. it began on the nose after the application of a leech. In No. 7. alone, no local cause of irritation could be traced; but the patient was habitually subject to the disease. It may also be remarked, that several other patients had threatening inflammation of the lancet wound after bleeding; but in one only did it proceed to any height, and in her it terminated fatally by gangrene of the brachial and pectoral muscles. None of the lancet wounds of those bled for the erysipelas inflamed; nor did parts to which blisters or leeches had been lately applied, exhibit any unusual appearance when erysipelas, in the course of its progress, reached them. In a few cases they were even applied directly to parts affected, without any bad consequences.

The effects of the remedies employed, and especially of venesection, will be rendered more evident by a short review of the practice in each case.

No. 1. occurred in a healthy married woman, who was admitted on the 8th day after the accession of pyrexia, large vesications having appeared on the 2d. The inflammation was still considerable; great febrile excitement, much gastric affection, disturbance of the mind, and constant moaning. She was bled to 20 oz. on the 8th, and again on the 9th. The blood was very buffy, and was much cupped. The febrile excitement was reduced, and the erysipelas did not extend. A blister was applied behind the left ear on the 9th, where the inflammation was then most lively. It rose and healed well, as if it had been applied to healthy skin. She was, however, far from being restored to health. She had constant retching, with tenderness of epigastrium, for which she was ordered a saline antimonial solution; and leeches, with fomentations, were applied to the epigastrium on the 10th, 14th, and 15th, always with relief. I was chiefly induced to employ leeches to the epigastrium so freely in this case, from Broussais's view of the disease, who considers the cutaneous inflammation as frequently sympathetic of the irritation of the gastric system. "The erysipelas of the head and face are very dangerous, because they induce cerebral and pulmonary congestion, and produce very intense *Gastro-enterite*. We have prevented them from proceeding to suppuration, by removing them very quickly by the application of leeches either to the epigastrium or the part first affected." * I had no reason to regret their employment; for the woman, who was in a very alarming state when admitted, was, in 10 days, well enough to be dismissed. The erratic nature of the inflammation, as affecting both the skin and the mucous membrane, was very apparent in this case.

The second case was extremely interesting; and, for some days, there was no hope of the recovery of the patient. This woman was attacked while in the hospital, and perhaps in consequence of the treatment recommended for another affection; increasing pains of head, with a tendency to coma, the consequence of blows received about six weeks before. On May 10th, an incision was made on a puffy swelling of the scalp, over the left parietal bone. She received instant relief; but at 3 *p. m.* she had a sudden accession of pain about the left ear; and, although it is probable this was the commencement of erysipelas, the incision was repeated more freely on the 13th. Instead of relief, this second incision caused intolerable pain, lasting several hours; and the wound, instead of healing immediately, as the first, showed a tendency to slough for some

* Leçons du Docteur Broussais sur les Phlegmasies Gastriques. Par E. De Caignou et A. Quemont, p. 256. 8vo. Paris, 1819.

days, which, however, did not take place. She almost immediately complained of stiffness and pain behind the ear, and in her neck, with swelling of the lymphatics, and had cold shiverings during the night of the 16th. Next morning erysipelas was observed to occupy the left side of the head. She was bled to 20 oz. on the 17th, and to 12 oz. on the 18th; but without any obvious effect in checking the disease, or lessening the general excitement. I was therefore deterred from pushing the practice farther; but I applied leeches to the epigastrium on the 19th, and to the forehead on the 22d. As she had constant loquacious delirium, and complained much of want of sleep, an anodyne antimonial draught was also given, which was quickly succeeded by quiet, or rather coma, lasting 24 hours. Leeches were again applied on the 23d to the top of the sternum; and after this she continued to recover, and had no complaint but what arose from the irritation of the eschar, produced by pressure on the nates which appeared on the 23d. A singular observation was made on the pulse of this woman. When admitted, it was irregular, which was ascribed to the affection of her head from the injury; but it became regular after she was attacked with erysipelas; and it again became irregular when she recovered. The heat of the surface was also remarkable, rising as high as 105 F. The following Table will show the progress of the pulse and heat, which were accurately noted.

May	15.	16.	17.		18.		19.		20.		21.		22.	
	m.	*m.*	*m.*	*v.*	*m.*	*v.*	*m.*	*v.*	*m.*	*v.*	*m.*	*v.*	*m.*	*v.*
P.	78	108	120	110	120	120	120	88?	116	130	126	120	124	132
H.							105	105	104½	104½	104	103½	104½	104½

May	23.		24.		25.		26.	27.
	m.	*v.*	*m.*	*v.*	*m.*	*v.*	*m.*	*m.*
P.	104	140	124	138	128	122	100	90
H.	100	101	102	100½			98	98

The effect of the anadoynes given on the morning of the 22d was remarkable; and afforded an additional instance to many I have already observed, of the good effects of the combination of anodynes and stimulants with the depletory practice. No particular effect was observed when the erysipelas spread in the course of its progress to the shoulders, between which a blister had been applied on the 19th; nor did the bite of the leeches applied on the 22d to the inflamed forehead, heal less kindly than usual. When the erysipelas affected both cheeks, the alabaster whiteness of the chin and upper lip, which it had not reached, was very striking. This appearance was afterwards observed in several other cases. As there were no obvious vesications in this case, it should be considered, according to Willan's Nosology, as a case of *Erythema marginatum.*

Case 3d occurred in a girl, a patient in the hospital for pleuritis, with some suspicion that the pericardium was affected, for which she had been bled to 30 oz., and leeches had been applied to the præcordia. On the evening after she was affected with erysipelas, a vein was opened, but only 14 oz. of blood got. This girl received much relief from the application of hot fomentations of vinegar and water to the part affected, which was the left mamma.

In Case 4th, the disease was also seated in the mammæ, first the left, and then the right. This girl, of a very full habit, had been a patient in the hospital from the 10th of June, having been seized with continued fever on the 5th. She was bled for the fever on the 10th to 30 oz., and on the 11th to 30 oz., and leeches were applied to the temples, and a blister to the sternum on the 13th. On the evening of the 18th, her erysipelas began. A vein was opened on the 19th, but only 12 oz. of buffy cupped blood were obtained: 30 oz. of the same appearance were drawn on the 21st, with imperfect relief. She received great benefit from cold lotions, and from suspending the mammæ, which in this case were enormously enlarged. The convalescence was very slow, and she suffered long after the erysipelas was terminated, from a kind of remittent fever, with colliquative sweating, which was at last checked by cinchona, but not until she was directed to remain out of bed as much as her strength would permit.

Case 5th was altogether slight. It occurred in the left temple, and was cured by cold lotions, without any detraction of blood.

Case 6th began around the left ear, in a woman of 54, in the greatest state of exhaustion from chronic diarrhœa. The disease was extensively erratic, but was easily borne. She was not bled, but got a little port wine, and had cold lotions.

Case 7th occurred in the right leg, in a woman in whom a similar attack, two years before, had left an affection greatly resembling *elephantiasis*, or *œdema durius*. The present attack commenced on the 25th. She was bled to 26 oz. on the 26th, which produced fainting, but greatly relieved her; and again, in consequence of a fresh attack, to 28 oz. on the 29th, with complete relief.

Case 8th was admitted affected with the disease. The case was chiefly remarkable on account of the age of the patient, who was in her 80th year. She was attacked on the 24th, and bled to 8 oz. on the 27th, with very great relief; and her convalescence was rapid.

Case 9th was a patient in the Hospital on account of an ulcerated throat, of a doubtful nature, whether syphilitic, sibbens, or scrophulous. The ulcers in his throat were touched with *mel æruginis*; and he got nitric acid, and a very little mercury. On the 9th of July the left *ala nasi* was inflamed, for which he applied a leech with relief. On the 12th, the right was similarly affected, and he again applied a leech. During the night of the 13th, he was accidentally much agitated, and exposed to cold, and was seized with tremors, headach, and pyrexia, with pain and swelling of the right salivary glands, and increased flow of saliva. On the 15th he was bled to 20 oz.; on the 18th to 30 oz.; and again, the same evening, to 24 oz. On the 20th to 28; and he was soon after convalescent; and on examining his throat, the original ulceration was almost healed; but, as he recovered strength, it again spread, and became deeper.

Case 10th was admitted as affected with general fever, which had commenced four days before. On the 13th July he awoke with acute pain of the right cheek; and, at the visit, it was observed affected with a tumefaction of a dark red colour, with a blueish or pale livid centre. He was bled to 20 oz., without any obvious benefit. I now thought to make a trial of the Italian method of Rasori and Tommassini, of treating inflammatory affections by contro-stimuli, and prescribed tartar emetic in frequent doses, dissolved in very little water, and desired the patient to refrain from drinking. Given in this way, tartar emetic, and some other powerful agents, are said to act as direct sedatives in inflammatory diseases, without producing the effects they usually evince when inflammation is not present. I persisted in this treatment till the 18th, when, in consequence of the disease continuing severe, and the ample experience I had had of the good effects of large venesection, I resolved to delay it no longer; and he was bled to 20 oz., and again the same evening to 20 oz. more, which seemed to have the effect of putting a stop to the progress of the disease; and his convalescence was good.

These cases, I think, sufficiently prove, that there is nothing in the nature of erysipelas essentially different from other inflammations. In ten cases occurring in immediate succession, the antiphlogistic treatment generally was employed with decided advantage. Two or three cases only were not bled, because they were so slight as not to require it; and wine was given to one patient only, in a state of extreme exhaustion from chronic disease. It cannot be said that these cases were all of that variety called phlegmonoid, which has always been considered to

require some depletion; for, in their external appearance, they presented every variety of form; and they occurred in patients of both sexes, at different ages, and in opposite states of previous health; and, as I have repeatedly said, they were not selected as suited to the treatment employed, but were all that occurred. I am aware that something may have been owing to the constitution of the season or year, as all diseases are now considered to partake more of a phlogistic diathesis than formerly. But I cannot avoid coinciding with Prof. Hufeland, that the alleged periodical change in the character of diseases, depends as much upon fashion in medical opinion, as upon real difference in their nature. Sure am I, that the continued fever which we now treat antiphlogistically, is the very same that, thirty years ago, was treated with the most powerful stimuli.

It may also be alleged, that although erysipelas may bear and require the antiphlogistic treatment in Edinburgh and the country generally, that in London the same practice would prove injurious. But I am not aware that the opinion so generally entertained, that there is something in the air of the capital which renders the depleting practice less applicable to its diseases, is supported by sound observation. The same change in the treatment of continued fever has taken place in the metropolis as in the country; and there is no proof that erysipelas and all other diseases are not the same in both.

Edinburgh, 20th August, 1821.

IX.

Case of Malformation with Ascites in a Fœtus. By John Windsor, F. L. S., Member Royal College of Surgeons of London, and one of the Surgeons to the Manchester Eye Institution.

The following is a case of Ascites occurring in a fœtus, which formed an abdominal tumour so large as to prevent delivery without instrumental aid; and, being conjoined with a malformation of the abdominal and pelvic viscera, appears somewhat interesting, both in a practical and an anatomical point of view.

On the 6th of the 9th month, 1816, I was requested, about half past one in the afternoon, to visit the wife of Thomas

Higham, of Shude-hill, in this town, a woman of about 24 years of age, and in her first pregnancy, on account of some difficulty in her labour. On my arrival I learned, from an experienced midwife who had been with her during the day, that the pains had commenced the preceding evening, and that the membranes had broken early in the morning, before she was called in. She found the os internum very little dilated, and the dilatation proceeded very slowly; the face presented itself, with the umbilical cord also protruding. By about noon the head became expelled, after great labour, without the os externum; but, after this time, the uterine action ceased, and every attempt of the midwife to accomplish the delivery proved unavailing.

In this state she was lying when I was called in. I found her pulse nearly of the natural frequency and strength; and she did not appear to be materially exhausted by the duration or severity of her labour. During the period of her utero-gestation, she had enjoyed a pretty good state of health, excepting some inconvenience which she sustained, especially during the advanced part of the term, from a sensation of remarkable heaviness in the abdomen, accompanied with some œdematous affection of the lower extremities. The cause of both these symptoms may doubtless be referred principally to the pressure made on the surrounding parts by the morbidly enlarged fœtal abdomen.

Had there been no preternatural obstruction, it seemed unaccountable how, the head being born, the delivery should have been so long protracted, especially as the midwife had made repeated though fruitless efforts to effect it.

Hence I was led to believe that there must be some malformation or morbid alteration of parts producing the difficulty; and, on applying my hand to the patient's belly, I found the abdominal tumour extremely large, though the child's head was born, and the waters had been long off.

Having placed the patient on her left side in bed, I proceeded to draw gently, though perseveringly, by the head; but the attachment of the cervical vertebræ, previously weakened by the midwife's attempts, now entirely gave way. I then passed a crotchet within the ribs, to assist the extraction; but this also failing, I carefully pushed in the perforator, in order that I might be the better enabled to embowel the fœtus. As soon as the instrument penetrated the diaphragm, there issued an immense gush of fluid, overflowing the bed, and passing through the floor into the room below. The exact quantity of it could not be measured, but probably it might be about ten or twelve pints. After this the uterine action, which had been so long

dormant, as if conscious of inability, was immediately renewed, and the fœtus, a female child, with the placenta, were expelled. The abdominal parietes of the child now presented themselves, from their previous distention, as a very large, somewhat pendulous, and almost empty bag. I exposed the cavity of the abdomen, and found about two pints of a serous fluid still remaining.

Observing also, at the same time, that there was a deviation from the ordinary structure of the parts, I requested to have the child sent home to me, that I might make a more minute examination of it at my leisure, which I had an opportunity of doing the next morning; and the following is an account of it. The urinary bladder was found attached, throughout its whole length, to the abdominal parietes, the attachment extending for the space of six inches, and as far as the umbilicus. The distance between the umbilicus and pubes appeared greater than is common, owing probably to the previously distended state of the abdomen. At the sides of the opening of the ureters into the bladder, this viscus sent off two culs-de-sac, each of which would admit the end of the little finger, as far as the first joint. Between the mucous and muscular coats of the bladder, at the posterior part, there was a deposite of an earthy matter for the extent of two or three inches. The muscular coat, in this part, appeared unusually thin; and, in one spot, which was circumscribed, it seemed altogether wanting.

The internal coat of the bladder was in some parts full, in others of a vermilion red. The small intestines formed a convoluted adherent mass, so that the different portions were with some difficulty separated.

The ileum terminated as usual by a valvular opening in the cæcum, which had its natural appendix. The colon, instead of making its ordinary turns, extended, in a nearly straight course, down the spine. At first sight, it seemed imperforable; but, on minute examination, a small canal, that would scarcely admit a blowpipe, was observed passing off from it. This small canal measured about one inch and a quarter in length, and passed into a bag or sac, a kind of rectum, which was double the diameter of the colon, and large enough to admit a hen's egg, and contracted a little in two parts, so as to divide it into three partial compartments.

The colon measured 9½ inches in length; its diameter equal only to that of the small intestines, but larger about its end, probably from the accumulation of the contents at this part, previous to their passing through the small canal. The small intestines, the colon, and the above mentioned sac or rectum, were all filled with a substance of a whitish colour, with a slight

tinge of green, and of the consistence of thick honey. At the umbilicus, the abdominal parietes, excepting the peritoneum, were for some space deficient. One umbilical artery only, but that a large one, was observed. Close by the opening of the canal, from the colon into the sac or rectum, another small passage was found passing off from the sac, which would only admit a crow's quill, was about half an inch in length, and ended in the bladder, near to where the urine passed off. The only exit therefore for the feces which nature had furnished in this singular malformation, was by the urinary bladder. There was no anus; no uterus or internal organs of generation were found; and, indeed, the above mentioned pouch or rectum was close to the posterior part of the bladder. The external organs of generation seemed natural. The liver was of a remarkably soft and pulpy structure; the spleen much firmer; the pancreas also of a firm texture. In the viscera of the thorax, nothing remarkable was observed. The fœtus was full-grown; and did not seem to have been dead long, as the cuticle remained entire. The sanguiferous and nervous systems were not, from want of time, particularly examined. The mother recovered well, and has since born two well-formed children.

Manchester, 5th Mo. 29th, 1821.

X.

Case of Amaurosis of the Left Eye, cured in consequence of an Accidental Stroke upon the Cheek, under the Right Eye. By William Henderson, M. D.

I am induced to publish the following case, both on account of its singularity, and also on account of its tendency to elucidate the physiology of the human eye.

Edward Syme, while a labourer at Feversham Powder-mills, upwards of twenty years ago, received an injury in his eyes in consequence of the mills having exploded, but from which he soon recovered. Some years after, he enlisted as a private in the Fifeshire Militia; and, while on duty with his regiment at Yarmouth in 1805, some French prisoners, in attempting to escape, blew up a magazine; from which accident he received so severe an injury in his eyes, as to occasion his discharge shortly after as unfit for service, by reason of cataract in each eye. From that period, vision in the right eye, though considerable, was imperfect; but the left was totally insensible to light, al-

though the cataract had been long completely absorbed, in consequence of its having been broken down, and pushed into the anterior chamber of the eye; which operation he had undergone some years ago. He was in this state when, in 1817, an order was issued by the Secretary at War for all out-pensioners of Chelsea, who had any impediment in their eyes, to repair to certain quarters for inspection by Medical Officers, who had been ordered to attend them at these places. Syme was ordered to put himself under the care of Sir W. Adams, who, on the 24th December 1817, operated on his right eye. A high degree of inflammation followed the operation, which was not successful, but which was repeated on the 22d February 1818. Shortly after the second operation, sight was restored. He was discharged on the 26th March following, with vision a little more distinct than when he went into the hospital.

On the first of April 1818, while coming out of the passage-boat at Kirkaldy, on his way home, he fell, and struck his head against a stone immediately under the right eye. The pain from the stroke was violent for a little, but soon went off. He continued his journey the following day, having felt but little uneasiness from the fall, and arrived at Perth about 8 o'clock, *p. m.*; and, while sitting talking to his wife, betwixt 9 and 10 o'clock the same evening, his sight almost instantly left him. Loss of sight was followed by excruciating pain in the eye.

When I first saw him two days after, the right eye was dreadfully inflamed; there was also a considerable degree of inflammation in the left eye. I immediately opened a branch of the right temporal artery, and bled him *ad deliquium*; then ordered a poultice of crumbs of bread and cold water to be applied over both eyes; low diet; and, as his bowels were rather slow, to take ʒss. of pulv. jalap. comp. every two hours until they were freely moved.

5th.—Had a tolerable night; pain in his head and eyes nearly gone. Bowels have been freely opened. Continue the poultice, and keep the room dark.

6th.—Had a good night; no pain in head or eyes. Continue the poultice.

7th.—Slept a little during the first part of the night, but awoke with severe pain in the right eye and forehead. Eyes much inflamed. I now opened a branch of the left temporal artery, and bled him again *ad deliquium*. Continue the poultice.

8th.—Slept well; no pain anywhere, but complains of lightness and giddiness in his head. Continue the poultice.

9th.—Had a good night, and goes on well.

10th.—Complains that his right eye feels tight, and a little sore. Ordered six leeches to be applied on the temple near the eye.

11th.—Found him quite happy, calling out "I have got my sight! I have got the sight of my left eye!" he having observed the different colours of the bed-curtains this morning when the poultice was removed. Complains of no pain anywhere. The florid red colour of the eyes, occasioned by the turgescence of the blood-vessels, has now changed to that of a faint brick colour. As the inflammation abated, vision in the left eye became stronger and more distinct; and, by the 15th, he was able to read with the aid of a double convex lens. The right eye shows no disorganization, but it is considerably enlarged, and still remains totally insensible to the strongest light. Vision in the left eye is much stronger, and more distinct than that which he enjoyed previously in the right eye.

Upwards of three years have now elapsed since the above-mentioned accident happened; and both eyes remain in the same state that I have already described.

I think there can be no doubt that the stimulus arising from the stroke, and subsequent inflammation, was the cause of sensation being restored to the retina and optic nerve of the left eye; while the violent inflammation in the right eye subsequent to the stroke, and consequent enlargement, may in some measure account for the loss of vision that followed.

When the ordinary applications of electricity and galvanism have failed in cases of amaurosis, might not the history of this case warrant a trial of the same remedies in a more powerful manner than has hitherto been had recourse to, in cases of loss of sight arising from a paralytic affection of the retina and optic nerve?

Rose Terrace, Perth,
June 30, 1821.

XI.

Cases of Inflammation of the Pericardium; with Remarks on the Adhesion of Serous Membranes. By R. Knox, M. D., Member of the Wernerian Natural History Society.

Case I.—M., aged 31. 15th.—Complains of severe and constant dyspnœa, with great oppression in the chest; cough; copious, bloody, and purulent expectoration; also frequent vomiting of a very bitter and greenish-coloured substance. There is constant

soreness in the site of the stomach and liver, but no acute pains. Sometimes, however, pains are felt at the top of the right shoulder. A slight hardness, and some tumefaction, may be felt in the epigastrium and the hypochondriac region. The emaciation and debility are considerable; countenance of a yellowish tinge; pulse quick, but irregular; great thirst; tongue yellow; no stool for some days. The present attack commenced about three weeks ago, with aggravated dyspepsia, cough, and the spitting of blood; as also with vomiting and severe headach.—Says that he has frequently had strong palpitations of the heart; was recently blistered, and has been taking acid and cough mixtures. (Had some castor oil and Tr. sennæ.—Milk diet. He next took pills of calomel and colocynth. to the extent of nine grains of the former, and twenty-four of the latter; and, finally, at 6 P.M., a purgative enema; effervescing draughts, and abdomen fomented.)

16th.—Physic operated, but not until he had received the injection, when two scanty and scybalous stools were procured. The vomiting continues as severe as yesterday, and he has spit a considerable quantity of blood and purulent matter. Pulse quick, but of natural strength; says that opium has never agreed with him. (Cont. pil. coloc. et calomel. Repet. enema si opus sit. Utat. potu ex potass. supertart. et Habeat h. s. extr. hyocyam. gr. iv.—Hora 6 P. M. Applic. episp. part. abdom. dolenti.)

17th.—The enema operated, and two scanty stools were procured. Spitting of blood much diminished, as also the vomiting; rested well during the night; says there is no pain in any part of his body, but that he feels as if a fluid moved through his lungs. (Cont. medic. ut heri.)

18th.—Had four stools, the last of which were not scybalous; some vomiting in the morning; expectoration of blood continues; feels pains in the right side; strength much failed, and the pulse is weak and small. (Cont. omnia ut heri, et hab. quoque lac ammoniac.)

19th.—Has very little vomiting or spitting of blood; is inclined to be costive; pulse pretty natural; blister discharges considerably; takes no food. (Repet. omnia.)

20th.—Has often a gulping of bilious matter from the stomach; but there is now very little spitting of blood, and no pains. General symptoms somewhat alleviated. (Cont. omnia.)

21st.—Great oppression and burning pain in the chest; bloody and purulent expectoration nearly ceased; little cough; is extremely weak; pulse irregular, slow: Had four stools.

22d.—Complains of soreness all over his body; all symptoms ceased; much stifling in the chest; died in the night. He took wine to the amount of several ounces during the last days of his illness.

Sectio Cadaveris.—Thorax.—The cavities of the *pleuræ* contained about 2¼ pints serosity, the right more than the left; slight adhesions in the right side anteriorly. The lungs contained a considerable quantity of mucosity. On opening the pericardium, the entire serous surface was covered with a layer of coagulable lymph, and

long slender adhesions united it to the heart: the part of it investing the heart itself was studded with small prominent bodies, giving to the finger a sensation as if drawn over sandpaper. The serosity contained was not great. The heart itself was larger than usual; and the left ventricle possessed a thickness of substance which might be called morbid. In the cavity of the abdomen, the liver was found to be of a large size; but nothing very remarkable was observed in any of the other viscera.

Case II.—D., aged 36. 14th.—Came into the hospital with intermittent fever, of which he has had a paroxysm every third day, about 6 P. M., of six hours duration. States that he has been eight years in the West Indies, where he had frequent attacks of intermittent. His present sickness is of eight days duration, attended by a constant nausea at stomach and vomiting of bile. Feels at present no pain in any part of his body. Pulse 80; tongue clean; appetite bad; belly regular. (℞ Hyd. submuriat. gr. x.—Milk diet.)

15th.—Complains of a pain at the margin of the false ribs in the right side, which he says produces a constant inclination to cough. Sickness at stomach not near so oppressive; bowels freely evacuated. Pulse 80; skin warm and dry; tongue furred; stomach and bowels easy. (Applic. epispas. parti dolenti et Capt. mist. cinch. ℥ss. ter in die et pil. hyd. submuriat. et opii āā gr. j. mane et nocte.)

17th & 18th.—Pain of right side nearly gone; cough still troublesome; sickness at stomach not so oppressive; bowels freely open. Slept little during the night. Pulse 80, and weak; tongue clean and moist. (Cont. medic. ut antea.)

20th.—Pain of right side has returned, which impedes respiration, and produces a short teasing cough; feels considerable pain on making a deep inspiration. His strength is a good deal reduced, and he has a sallow complexion. Nausea at stomach continues, with occasional vomiting of bile. Pulse 96; skin hot and dry; tongue foul; feels no inclination for food. (Cont. medic. et appl. epispas. part. dolenti.)

22d.—Is upon the whole worse. Cough and difficult respiration not alleviated. He is at times very restless, and complains much of the pain in his right side; has constant sickness at stomach, but he seldom vomits. Pulse 120 last night; at present 86, and very weak; skin cool and moist; tongue clean; bowels costive. (Omitt. cinchona et capt. hydr. submur. gr. v. 3tia quaque hora donec responderit alvus, et utatur pro potu mist. acidi nitrici.—Milk diet.)

24th.—Cough and oppressed breathing increased; complains very little of the pain in his side, or sickness at stomach. The upper and lower extremities at times cold, and the pulsations at the wrist scarcely perceptible; was very much purged by the calomel. (℞ Decoct. cinch. ℔ j. Tr. zingib. & Tr. cinch. āā ℥ j. Capt. ℥ j. secunda quaque hora. Milk diet. Beer 1½ pint, wine 8 oz., sugar 1 oz.)

25th.—Cough and difficult breathing relieved; feels considerable uneasiness when he attempts to expectorate. Pulse fuller and more

regular; tongue clean and moist. His hands and lower extremities possess natural warmth; stomach easy; pain of right side still perceivable; bowels very open. (Cont. medic. Beer 2 pints, milk 1 pint.)

26th.—Breathing contracted; has a short cough, with difficult expectoration, as at last Report. A full inspiration produces cough and pain in his side. Skin warm and moist; pulse 80, and regular; tongue clean; bowels very open. *Vespere.*—Respiration much oppressed and quickened; cough continues, but is unable to expectorate. When he lies for a short time on his back or on either side, he is obliged to be raised up in bed, owing to a sensation of immediate suffocation. Pulse feeble and intermittent; extremities cold; much anxiety felt at the pit of the stomach, and indicated in the countenance.

27th.—Died at 1 A. M.

N. B.—I saw this patient on the 23d, 24th, 25th, 26th, and his state was as follows.—He had a small, very quick, sharp, regular pulse; lay constantly on his back; tongue perfectly black, and much furred; he greatly resembled a man labouring under typhus fever.

Sectio Cadaveris.—External appearance presented nothing remarkable. Thorax.—Strong adhesions were found in the right lobe of the lungs; and a considerable collection of purulent matter, mixed with coagulable lymph, in the pleura of the same side. This pleura exhibited marks of inflammation, extending even to the diaphragmatic pleura. On cutting into the right lobe, its internal structure appeared altered by inflammation; and purulent matter could be pressed from the bronchial cells. This appearance existed only in the lower lobe of the right lung. Left lung sound. On opening the pericardium, it was found to contain at least a pint of purulent and serous fluid, in which floated large masses of coagulable lymph, which also contained some pus. The serous part of the membrane lining the pericardium, properly so called, was covered with a thick layer of coagulable lymph; and that immediately covering the heart, presented an appearance precisely similar to that found in the preceding case. Heart large, but otherwise sound. *Abdomen*, spleen very much enlarged. Ulcerations observed in the rectum.

The subject of Pericarditis, and Inflammation of the Heart, has successively occupied the attention of many distinguished observers, amongst whom may be mentioned Morgagni, Corvisart, Laennec, and Duncan; nor did it escape the acute mind of that illustrious man to whom medicine owes much, and surgery every thing. The habit of very carefully examining, after death, the bodies of those who have died of disease, and of comparing these examinations, made under a variety of circumstances, with the observations of others, has led me to form opinions relative to pericarditis, which, if not peculiar, yet seem to differ considerably from those already before the public. I entertain

hopes, that benefit may be derived to practical medicine from the investigation of these opinions, though ultimately they should not all be confirmed; and with this view submit them to the public. *1st*, The difficulty in the diagnostic of pericarditis is allowed to be great; yet perhaps, with care, the disease, for the most part, might be detected at its commencement. In the cases I have witnessed, amounting to five, vomiting was universally present, and the patient could not lie with ease on his back. These symptoms have been observed by so many others, that I should deem the concomitancy of vomiting, with symptoms of inflammation within the cavity of the chest, as a decisive indication of the nature of the case. The most dangerous error which can be committed is the confounding pericarditis with typhus fever or hepatitis. The treatment by such stimulants as wine and opium hurries the patient rapidly to an untimely grave; whilst the extreme abuse of calomel in hepatic cases, proves no less destructive when the disease is mistaken for hepatitis. Should the disease be mistaken for pleuritis, as indeed they are often combined, the patient's chance of recovery would necessarily be diminished; for no one would venture to employ depleting measures to that extent, which a knowledge of the presence of pericarditis would warrant. I differ, therefore, from the learned author of the article "*Pericardite*," in the "Dictionaire des Sciences Medicales," who seems to consider it of little import though the disease be mistaken for pleuritis, as the treatment would necessarily be similar in either case. But every British practitioner, I imagine, would, on ascertaining the existence of so very alarming a disease as inflammation of the pericardium, adopt measures much more active than those generally resorted to in a common pleuritic case: He would carry venesection to the utmost possible extent; and would employ large vesicatories, which, from the vicinity of the organ affected to the surface, would materially contribute in arresting the progress of the disease. *

2d, A very careful inquiry into the nature of pericarditis has disposed me to adopt the opinion, that no one ever survived, for any length of time, an inflammation of the pericardium, whether acute, subacute, or chronic. As this opinion is in direct opposition to that of some very distinguished authors, I shall here briefly endeavour to show the grounds on which the conclusion has been adopted. The only proof hitherto offered, so far as I know, of a person having survived the effects of an inflamed pericardium, are drawn from the appearances of adhe-

* For a very instructive case of pericarditis, mistaken for rheumatism, see Pelletan's Surgical Works. The patient was the celebrated Mirabeau.

sion of this membrane to the surface of the heart, which have presented themselves when no previous symptom led to the belief that the person had laboured under any disease of that organ for at least a great number of years. But many cases are on record, in which the pericardium was found adhering to the surface of the heart, though, during no period of the patient's life, was he known to have been afflicted with disease of any organ contained within the cavity of the thorax. I find amongst my notes two such cases, in which, after the very sudden death of the patient, who had previously for many years enjoyed perfect health, no morbid appearance was found excepting the adhesion of the pericardium to the heart. It is also somewhat remarkable, that in neither of these cases had the patient ever been known to be affected with any disease referable to the chest. We shall presently consider the connexion between the morbid appearance found, and their sudden death. A few cases might be quoted from Morgagni, and other equally respectable authors, confirmatory of this pathological fact; and a distinguished modern anatomist and pathologist (Laennec) allows, that he has repeatedly met with such cases. "Il a ouvert un grand nombre de sujets qui ne s'etaient jamais plaints d'aucun trouble dans la respiration ou la circulation; ou qui n'avaient presente aucun signe semblable dans leur maladie mortelle, quoiqu'il y eut adherence intime et totale des poumons et du cœur." It would seem, then, that the adhesions observed between the serous surfaces of the pericardium are of very different natures; that in the first, where coagulable lymph is effused, inflammation more or less acute is present; purulent matter generally appears, and the disease is necessarily fatal. On the other hand, the pericardium, without any alteration of structure, occasionally adheres to the heart by a short cellular texture, and without any accompanying or preceding inflammation, as we often find takes place in the pleura. The patient suffers little or no inconvenience, *but is apt to die suddenly at a period more or less remote.* This is an important fact, hitherto unobserved, so far as I know; and whether satisfactorily proved or not, merits the attention of the pathological anatomist.

It is well known that, in the phlegmasiæ of serous membranes, the formation of adhesions generally succeeds in arresting the farther progress of the disease, and gives to the patient an additional chance of recovery. The forming of adhesions between the serous surfaces of the heart would be accompanied with the same beneficial effects as in the phlegmasiæ of other serous membranes, were it not for the nature of the organ which it protects, its perpetual activity, and for the circumstance of its being the very source of life. In cases of pericarditis, even

previous to the formation of adhesions, the disease has already committed ravages on the constitution, has destroyed the delicacy of the membrane, and altered its natural texture. It then becomes much thickened, dense, and inelastic; its smooth internal surface is altered; considerable masses of coagulable lymph have been deposited, existing either loose in the cavity, or forming the bond of union betwixt the diseased surfaces of the pericardium. All analogy points out that we must not strictly apply the pathology of other organs to the heart; and we have seen, in the distressing case of M., that the disease will destroy the strongest frame, though purulent matter be not effused into the cavity of the pericardium, and the otherwise favourable circumstance of adhesions have taken place, without averting, or in the smallest degree delaying, the period of the fatal catastrophe. 3*d*, Were we in possession of all the details relative to those cases where the pericardium has been found adhering to the surface of the heart, in persons who, during life, had never complained of any pectoral disease, we should probably find that such adhesions as those I allude to, which are neither accompanied by, nor preceded by, inflammation of this membrane, are, from the nature of the organs whose function they interfere with, attended by the sudden death of the patient. This would seem to be confirmed by two cases met with in Morgagni (Ep. 5–19. & Ep. 8–6.); and probably patient research into the *fasti* of medicine might produce evidence sufficient to establish this opinion, which I must consider as one of considerable importance with a reference to *legal medicine*.

I shall conclude these brief remarks by summing up, in a condensed form, results drawn from numerous dissections of diseased bodies, altogether independent of medical theory or hypothesis; their refutation or confirmation, by an appeal to the same source of knowledge, will afford me equal pleasure. 1*mo*, Hitherto inflammation of the pericardium has been almost uniformly mistaken for that of some other organ, or, unhappily, for some other disease of a totally different nature; hence those enjoying extensive practice, either in private life or public hospitals, should direct their particular attention towards investigating this disease. 2*do*, Inflammation of the pericardium, which has advanced so far as to form adhesions betwixt its surfaces, or to pour out coagulable lymph or purulent matter into its cavity, is uniformly and necessarily fatal. 3*tio*, Adhesions which, on other inflamed serous surfaces, limit the progress of the inflammation, and rescue the patient from immediate death, are of temporary benefit only in cases of inflamed pericardium, and do not ultimately save the individual. 4*to*, Adhesions are formed between the serous surfaces of the pleura, pericardium

and peritoneum, without inflammation, and without the previous effusion of coagulable lymph. * When an adhesion of this nature unites the serous surfaces of the pericardium, it is very extensive, most commonly uniting the entire surfaces. To suppose that this was formed by the agency of any inflammatory process, involves the further supposition that a patient could possibly survive such an inflammation, and that it might have run its course without the production of any very obvious symptoms in the sufferer; suppositions which no pathologist would venture seriously to defend. *5to*, These adhesions, when they affect the pleura and peritoneum, are of little consequence unless very extensive; but, when they regard the pericardium, they must necessarily affect the motion of the heart, and seem to be productive of sudden death (without any preceding illness), at a period sometimes very remote from the time of their formation.

NOTE BY THE EDITOR.

ALTHOUGH not the custom of the Editor to make any comments upon the communications of his correspondents, by which the reputation of this Journal is mainly supported, he cannot refrain from adding a few remarks to Dr Knox's valuable paper.

1. He thinks he has seen at least one case of decided pericarditis treated successfully; and cannot yet subscribe to Dr K.'s opinion, that the advanced disease is *uniformly and necessarily fatal.*

2. He has also seen cases of universal and uniform adhesion by very short cellular membrane, when no symptoms of *pericarditis* had ever been observed. One of these cases lately terminated unexpectedly in death, though preceded for a few days by palpitation and irregular action of the heart; and, on examination, besides the uniform adhesion of the pericardium, great part of the pleura of the right side was converted into bone and cartilage, at least half an inch thick, although no suspicion of any disease of the organs of respiration had been entertained.

3. Dr K.'s idea of the possibility of adhesion without preceding inflammation, appears to receive support from a case of death from debility after continued fever, when, on opening the thorax, the pericardium seemed wanting; it was so transparent, and adhered so closely, from the total defect of serum: But the whole serous membranes of the thorax and abdomen were equally dry and diaphanous.

A. D. Jun.

* It is not improbable that, at some future period, a connexion may be traced between such cases and those in which the surfaces of the pericardium have been found totally destitute of moisture.

PART II.

CRITICAL ANALYSIS.

I.

1. *Experiences sur la Digestion dans l'Homme presentées à la Premiere Classe de l'Institut de France, le 8 Septembre* 1812. Par A. Jenin de Montegre, Médecin de la Faculté de Paris, Rédacteur-Général de la Gazette de Santé; suivies du Rapport des Commissaires nommés par l'Institut. pp. 55. Paris, 1814.
2. *General Views relating to the Stomach, its Fabric and Functions.* By T. C. Speer, M. D. Physician in Bath. 8vo. London, 1818.
3. *A Treatise on Indigestion and its Consequences, called Nervous and Bilious Complaints, with Observations on the Organic Diseases in which they sometimes terminate.* By A. P. Wilson Philip, M.D. F.R.S. Ed. &c. 8vo. pp. . London, 1821.
4. *Observations on Derangements of the Digestive Organs, and some Views of their Connexion with Local Complaints.* By William Law, Fellow of the Royal College of Surgeons of Edinburgh. Edinburgh, 1821. 8vo. pp. 156.
5. *Peptic Precepts; pointing out agreeable and effectual Methods to prevent and relieve Indigestion, and to regulate and invigorate the Action of the Stomach and Bowels.* By the Author of the Cook's Oracle. 12mo. pp. 48. London, 1821.

It is not easy to define the function of digestion; nor is it easy to point out the circumstances from which a definition may be formed. Physiological writers have attempted it in different modes, sometimes from a wish to be novel, sometimes from experiencing the difficulty of assenting to the definitions of previous authors, or from the consciousness that all these definitions were imperfect. If we form a definition from the intention of the function, or its immediate object in the economy, we may

say with Magendie, that it is that process by which the chyle is prepared. This, however, presupposes an acquaintance with the chyle, the knowledge of which naturally follows that of the digestive actions.

If, on the other hand, we define this function from the organs in which it chiefly takes place, we may say that digestion consists in that series of actions which take place either simultaneously, or successively, in the course of the alimentary canal. This is indeed an application of the term considerably different from that which was originally intended; for it was assuredly employed to signify merely the action of the stomach in particular; but recent writers of eminence have departed from this; and, at least in the use of the term *digestive organs*, they authorize the extension of it which we adopt. We are not willing to provoke or to merit the charge of innovation, otherwise we should propose, that, to obviate this very natural objection, the term digestion should still be restricted to the changes which take place in the stomach, while the assemblage of processes which take place in the entire canal, is designated by the term *Alimentation*.

Viewing it in this light, therefore, digestion, or rather alimentation, may be considered as capable of being resolved into several simple processes, which have been known to physiological writers by various names:—We exhibit the following Synoptical Table of these individual processes, of their nature, and of the parts in which they are principally performed.

	Processes.	*Nature.*	*Seat.*
Alimentation comprises seven successive actions.	1. Mastication,	Mechanical division,	Mouth.
	2. Insalivation,	Mechanical mixture,	Mouth.
	3. Deglutition,	Mechanical conveyance,	Phar. & Œsophagus.
	4. Digestion,	Chymification, chemical change? assimilation,	Stomach.
	5. Encholosis, or Biliation,	Chylification, Peculiar mixture and separation,	Duodenum.
	6. Action of small intest.	Absorption & transportation,	Ileum.
	7. Action of large intest.	Transportation & expulsion,	Colon.

The first two of these processes are abundantly simple, and never seem to have attracted much attention; mere mechanical division where it was requisite, and mixture with a quantity of salivary and mucous fluid, constituted the entire change which the food underwent in the mouth and œsophagus. In the third action, it was presumed to be merely conveyed from the mouth to the stomach; so that it entered the one cavity in the state in which it left the former. So far the process was obvious enough; and it would have been a waste of time and thought to reflect much on what was so palpable. But when the food

reached the stomach, and was securely deposited in that viscus, what then became of it? It must have been observed, even at a remote period, in occasional vomiting occurring on the human subject, and in the stomachs of animals which were slain at the altars of the divinities, that the contents of that organ were no longer in the same state in which they had been transmitted from the mouth;—what change, therefore, had taken place, and by what means had it been effected? This was the difficulty which perplexed their ingenuity, excited their imagination, and gave birth to numerous fancy-works, each excelling the other in extravagance. Every tyro in the history of medicine knows the whole of those ingenious means by which the different sects who flourished at various periods, convinced themselves and the world at large of the mode in which man digested his food. The days are now past, when it was requisite to occupy the time of the student in telling him that some ancient philosophers, as Empedocles, Plistonicus, Dionysius Ægeus, &c. &c., said that the food underwent putrefaction in the stomach; that Hippocrates attributed digestion to coction effected by an elevated temperature; and that Galen endowed the stomach with attractive, retentive, concocting and expelling properties, in order to explain the mysteries of the process. This last doctrine maintained a sovereign influence in the schools till the middle of the 17th century, when Stahl and his followers, whose propensities and tastes were principally chemical, and whose antipathy to every thing Galenical seems to have known no bounds, recognised in the saliva a property of fermentation; and they forthwith established a sort of effervescence in the noble organ. In what light this insufferable innovation was viewed, history is silent; but the theory was destined to enjoy but a short-lived reputation. The success of Sir Isaac Newton, and such men as Gregory, Keil, Halley and Huygens, in explaining the phenomena of the material world on geometrical and mechanical principles, tempted the physiologists of the day to introduce them into the animal economy, and revive the opinion of Erasistratus. The stomach was then fancied to be a contractile engine, which was unceasingly triturating the aliment, and, by comminution, rendering it suitable for nourishing the individual. Nothing can be more truly tiresome than the history of these irrational opinions; and we shall not anticipate the reader's ingenuity in refuting them. It is sufficient for us to say, that, about the middle of the last century, †

† Memoires de l'Academie des Sciences, anno 1752, pp. 418—457, 12mo.; pp. 282—308, 4to.

M. de Reaumur showed, in a most satisfactory manner, that this system, which had then the firmest hold of the minds of men, was perfectly inconsistent with the powers of the stomach in the majority of animals; and completely proved, that the changes which the food undergoes in the stomach, must be accomplished by some fluid agent which acted in the manner of a solvent. It was impossible to obtain any direct evidence from the inspection of the process in the human subject; but, by giving alimentary substances, enclosed in open tin tubes, and perforated balls of metal, to birds of various kinds, to dogs, and to sheep, M. de Reaumur ascertained, 1*st*, that trituration, which takes place in birds possessed of the gizzard only, corresponds to the mechanical division of the food by the teeth in man and all other animals; 2*d*, that it has no part in the process of digestion in the human stomach, for the usual changes took place in situations where mechanical force of this kind could not operate; and, 3*d*, that digestion was accomplished certainly in birds of prey, dogs, &c., and probably in man, by the action of a fluid similar to a solvent. He further attempted to obtain some of this fluid by means of sponges; and he showed that, even out of the body, it could effect on alimentary substances changes analogous to those which took place in the cavity of the stomach. * These experiments, which were known by the name of artifical digestions, had a powerful influence in altering the physiological doctrine of digestion. The existence of a fluid, to which the name of gastric juice, or liquor, was given, was generally admitted among medical men; and, as solution was known to be accomplished in general by something acid or alkaline, strong hopes were entertained that it must belong, in chemical characters, to one or other of these classes. Numerous investigations were instituted, but the discordant results which have been obtained, prevent us, even in the present day, from going to either side.

An important step however had been made; error had certainly been refuted, and this we know is the first advance to wisdom; a glance at the truth had been obtained. Matters were in this state for about ten or twelve years, when a distinguished physiological genius appeared in England. Mr John Hunter, who, after a residence of three years in various places abroad in the surgical department of the army, returned to London in 1763, had, among many subjects of the animal economy to which

* Memoires de l'Academie des Sciences, anno 1752, pp. 705—752, 12mo.; pp. 464—495, 4to.

he bent his active and original genius, been making observations and performing experiments on the changes which take place in the food in the stomach. * The results of these investigations had been limited to his own pupils, till an accidental occurrence induced him to lay them partially before the world. Mr Hunter had occasion to examine, in the presence of Sir John Pringle, one of the Baronet's patients, in whom he met with a partial solution of the stomach. Mr H. had some years before repeatedly observed, principally in the bodies of persons who had been slain by violent deaths, considerable dissolution, and, in some instances, complete destruction of the gastric coats, so as to allow the contents to escape into the cavity of the abdomen. He had therefore no difficulty in explaining this appearance to Sir John, to whom it was both new and unaccountable; and, at the request of the Baronet, he drew up a paper, which was published in the 62d Vol. Philos. Trans. in 1772, and in which he showed, that the solution or destruction in question was the effect, not of disease, but of the action of some powerful agent contained in the stomach itself; that it was, in truth, an actual digestion of the stomach, and depended on the circumstance of the part being suddenly deprived of its vital energy; while the fluid, whatever it were which had been previously secreted, was at liberty to act on it. He came in short to the conclusion, that there must be something secreted in the coats of the stomach, and poured into its cavity, which animalises or assimilates the alimentary substances to the nature of the blood. †

The publication of these important facts and reasonings seems, by the account of Mr Hunter himself, to have given a decided impulse to the tastes and pursuits of physiologists. The second Doctor Monro, in whom a kindred spirit of investigation, as may be often remarked in the history of science, simultaneously appeared, had been employed very nearly at the same time (1764)‡ in performing experiments on animals with the same view; and although, like Mr Hunter's, the results had been confined almost to his pupils, yet, like the pursuits of distinguished men in general, they diffused around them a spirit of inquiry, which produced the most beneficial influence on the medical sciences. We may, indeed, justly consider the few experiments of Dr Monro, and his judicious reasonings, which

* Philos. Trans. Vol. LXII. anno 1772, London, pp. 447—452.

† Philos. Trans. Vol. LXII. anno 1772, London, p. 454.

‡ Dissertatio Physiologica Inauguralis de Alimentorum Concoctione; Auctore, Eduardo Stevens, A. B. 1777, p. 54, *nota*.

could not have been derived from Mr H., as having given birth to the most complete and conclusive experimental investigation that ever was instituted with the view of elucidating any animal function. All the information hitherto collected had been procured from experiments on the lower animals, which could furnish at best analogical conclusions only; or was the result of accidental observations made on the human body after death; which, although they were presumptive, as far as they went, were not however of the description to satisfy a sceptical mind. No direct proof had been obtained of the agent by which food is digested in the human stomach, or the mode in which it operates; nor could we say that we had any more than mere analogical evidence for our belief, when an opportunity, literally unparalleled, of attaining this wished-for object occurred in Edinburgh, and of which Dr Edward Stevens, a zealous and diligent pupil of Dr Monro, failed not to avail himself. A miserable being of a Hussar, whose fatuity and poverty compelled him to earn a wretched pittance by the most abject compliance with the capricious curiosity of the mob, had begun, at the early age of seven, to swallow stones and other hard bodies; and having continued the practice during twenty years, what had originated in idle amusement, was now resorted to as a regular profession, to supply the necessities of life. At the time when Dr Stevens saw him, his stomach was so distended, apparently by the considerable weight to which it was repeatedly exposed, that he could swallow several stones at once, which were not only felt in the stomach, but might be heard by bystanders moving against each other, when the hypogastric region was struck. This military stone-eater, who gratified the curious and amused the idle for a trifling guerdon, became the subject of a variety of experiments, which Dr S. has detailed in a very excellent inaugural dissertation, published at Edinburgh in 1777.* Although well concerted, abundantly simple, and clearly described; yet as they would only become tiresome when minutely detailed, it is sufficient for our purpose to mention, that Dr S. caused the Hussar to swallow at different times perforated silver balls, containing sometimes raw animal food, sometimes vegetable aliments; and, in other instances, the same substances roasted or boiled, and slightly masticated. All the substances thus submitted to the power of the stomach, were acted upon in a very conspicuous manner, although the changes induced were various in degree. In general, raw animal matters suffered less than those which

* Dissertatio Physiologica Inauguralis de Alimentorum Concoctione, Auctore Eduardo Stevens, A. B. 1777.

were roasted or boiled; roasted or boiled animal matters, which had been mechanically divided, were most completely dissolved; next to these, the substances which were contained in spheres with large holes, were, *cæteris paribus*, more completely dissolved than those contained in spheres with minute perforations; and lastly, the various vegetable grains, as wheat, rye, barley, oats, and peas, were least of all altered, having only become moistened and swollen; while bone underwent not the slightest change from the power of the human gastric fluid. The most interesting of all Dr Stevens's experiments with the Hussar, however, were those in which he enclosed leeches and earthworms in his perforated spheres; and found that even these animals, though introduced living, were dissolved as inanimate matters by the agency of the fluid of the stomach. The subject of the experiments having soon left Edinburgh, prevented Dr S. from continuing his inquiries; and he was, like others, obliged to have recourse to dogs and artificial digestions. The results of these investigations, though interesting, differ in no respect from those which had been obtained by other physiologists, especially M. de Reaumur.

It is indeed true, that it might be objected to these experiments, that they did not enable the physiologist to determine what precise share in the changes the stomach or its secreted fluid had; and, for any thing they prove to the contrary, these substances might have been altered entirely or partially, in any other division of the alimentary canal, in the duodenum, or in the ileum, or perhaps in the colon. It is singular that this fact seems to have escaped Dr Stevens, and is noticed merely in a cursory way by a subsequent inquirer.

" Prima di terminare questi racconti non debbo tacere un fatto in me accaduto, quando mi procacciai dal mio ventricolo per la seconda volta il suco gastrico. Quattr' ore prima di venire mediante il vomito a questo ributtante esperimento, io aveva preso due tubetti muniti di carne masticata di manzo. Uno di essi nel rigurgito del suco gastrico mi uscì di bocca. Era tutto intriso sì dentro che fuori di detto suco, il quale dava chiaramente a vedere, che cominciato aveva a digerire la carne, come appariva dall' esser questa già sfibrata alla superficie e resa gelatinosa. Inoltre si era ridotta al peso di 38. grani, quando prima d' inchiuderla nel tubetto ne pesava 53. *Cotesto esperimento prova dunque aversi una rimarcabile digestione da' suchi del ventricolo umano prima che i cibi rinchiusi tragettino agli intestini.*" *Spal.* II. 67.

Spallanzani, who had evidently been engaged in the investigation of the same subject, very soon published a most complete and satisfactory set of experiments. He examined the properties of the gastric juice, and the process of digestion, in almost all the animal tribes, and lastly in the human subject.

He had perused the short paper of Mr Hunter; but seems to have been totally unacquainted with the opinions of Dr Monro, or the experiments of his pupil Dr Stevens. He repeated and varied those of M. de Reaumur; and confirmed, in general, the results which that philosopher had obtained. To these he added a great many more, of some of which he made himself the subject. It is almost unnecessary for us to notice matters which are so generally known; but we may be allowed to say, that he verified the conclusions of De Reaumur and Hunter, so far as this could be accomplished, by means of artificial digestions, and observing the changes which various substances underwent in passing through the tube. It is painful, however, to think that this indefatigable and patient inquirer has been abused and vilified by many, who, it might have been expected, would be the most forward to thank him for his services. It has lately become fashionable to undervalue the merits of the Italian philosopher; to say that he has not added any important fact to our knowledge; and that he has certainly tortured and destroyed many animals to no purpose. * A regard for literary and scientific justice forbids us to adopt the sentiments of the very distinguished professor who has lent his high authority to a cause so questionable. It was enough, we think, that Mr Hunter, who was abundantly able to defend his own cause, should criticise the experiments of the Abbé, and point out where they were defective. But it ought to be kept in mind that, however well the process of digestion was known to Mr Hunter, yet the entire results of his observations were not accessible to the world when Spallanzani published his dissertations. With the exception, indeed, of the paper of Mr Hunter, no work of any consequence had appeared since the time of M. de Reaumur's Memoirs; and the Abbé's experiments certainly both filled up many vacuities in the information afforded by De Reaumur, and rendered the complete sum of physiological knowledge much more satisfactory. To any one who takes this view of the subject, it must appear certain that Spallanzani rendered most important services to science, and was certainly entitled to better treatment than that which he has experienced at the hands of Mr Abernethy, who, in his zeal for the glory of his friend, has certainly overstepped the modesty of candid criticism.

The publication of the Abbé's dissertations, which took place in 1782, called forth from Mr Hunter, about four years afterwards, some observations on digestion, containing remarks on

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* Physiological Lectures, exhibiting a General View of Mr Hunter's Physiology, delivered before the Royal College of Surgeons in the year 1817, by John Abernethy, F. R. S. &c. &c. London, 1817, p. 165.

the experiments and opinions of De Reaumur, Spallanzani, and Stevens, with some general facts and observations of his own. Although this essay is composed in the confused and rambling style for which Mr Hunter was so remarkable, yet it contains many profound views and reflections, which demonstrate the original and penetrating mind of its author. After taking a view of the experiments of De Reaumur and Spallanzani, in which he canvasses and criticises those of the latter very freely, Mr H. proceeds to inquire into the actual seat of digestion, which he thinks cannot be determined with absolute certainty; but he adduces various arguments—for example, the power of the gastric juice in effecting coagulation, to show that it takes place principally in the stomach. He thinks, however, that this process seems to be carried on in the duodenum likewise, because this intestine secretes the same fluid as the stomach; and this fluid, with part of the food, passes into the duodenum before it has been converted into chyle. He then proceeds to show, by various facts and reasonings, that digestion consists neither in fermentation, nor in coction, nor in chemical solution, but in a species of assimilation or generation, in which two substances give origin to a third. *

After this time, almost no writer of any eminence appeared on the subject of digestion in the stomach. The information which had been already collected was so satisfactory, and the facts were so numerous and so uniform, that it almost precluded the hope of adding any thing new. The subject was in truth exhausted. Accordingly, Dr Fordyce, who had made this function the subject of a Gulstonian Lecture before the Royal College of Physicians, published it in 1791, in the form of a Treatise on Digestion, in which he gave a summary view of the whole matter. We cannot discover that he has added any thing material to what was already ascertained; and he seems merely to repeat and to expound the opinions which Mr Hunter had already advanced on the intimate nature of the process. He does this rather in a singular way, with a considerable degree of scientific display, and argumentative pomp; but the work is, on the whole, an acquisition not without value to the physiologist.

It was not to be expected that the doctrine of Digestion could be any longer an object of investigation; the fluctuations of physiological opinion had subsided into perfect tranquillity; and the solvent, or rather assimilating power of the gastric fluid, seems to have been universally admitted as the sole and

* Observations on certain parts of the Animal Economy, by John Hunter, 4to. London, 1786, pp. 147—183.

efficient agent of the changes which alimentary substances undergo in the stomach. Every one seemed satisfied with this very natural view of the subject; and the whole medical world might be said to be agreed on this important point.

But there is a tide in the affairs of philosophers, and opinions and doctrines are destined to obey its ebbings and flowings. There is assuredly, in the scientific mind, a something which loves uncertainty, because it is the source of investigation, and delights in change, because it gives a joyous excitement to the soul. Whoever has not felt, on striking out a new light on any mysterious subject, that mental elevation which, overlooking every other thought, is borne forward by the buoyancy of its own emotion, is none of the favoured children of knowledge, and may be assured that his heart has never been touched by the divine torch of science. In the bosom of that nursery of scientific doubt and inquiry which has lately been threatening the Hunterian system of lymphatic absorption, and reviving the ancient theory in favour of the veins, a new and dangerous schism arose, which proved the gastric fluid to be nothing but saliva and mucus. This heresy was broached by a daring innovator named A. Jenin de Montegre, who, in the close of the year 1812, read, before the Institute of France, a series of experiments on digestion: And of these we must now give a more minute account; *first*, because they seem to be not generally known; and, *secondly*, because they will bring this historical sketch down to the present time.

M. de Montegre's work, which is a *brochure* of some 50 pages, consists of two parts,—a historical account, as is seemly, of the labours of his predecessors, and a narrative of his own personal discoveries. Of the first we have no occasion to speak, unless to remark, that the author betrays a singular ignorance of the experiments of Dr Stevens, and the last Essay of John Hunter. For this, however, we forgive him. The second part comprises two subdivisions, one of which is on the existence and nature of this problematical gastric fluid; the other is expressly on the process of digestion. We premise that M. de Montegre is a ruminating human being, and possesses the faculty of raising spontaneously the contents of his stomach at any period of digestion.

Gastric juice brought up, in the quantity of two or three mouthfuls, from a morning stomach, was a frothy fluid, very little ropy, a little turbid, with mucous flocculi suspended in it, evidently derived from the membrane which is common to the whole canal. It had an acid, clean, and not unpleasant taste, particularly sensible in the throat; did not whet the teeth, but made them rough, and less easily moveable on each other; it

obviously reddened the syrup of violets, tincture of turnsol, or paper coloured by this tincture.

A morsel of lean beef, which had been broiled, was divided into three parts; the first, being well masticated, was put with this gastric fluid and some saliva into a glass tube; the second, equally masticated, was enclosed with saliva only in a second tube; the third neither masticated nor impregnated with saliva, but minced as small as possible, was put with pure water into a third tube. The three tubes, well corked and numbered, were placed within a fold of flannel in the axilla. After twelve hours, the first and second emitted an equally shocking odour of putrid meat, their contents being no less consistent than after mastication; the third was so likewise, but in a less degree, as the odour of broiled animal substance was still perceptible.

In his second experiment of the following morning, M. de Montegre, having ascertained that his saliva gave no proof of acidity, brought up half a glass of fluid, in which he found no traces either of acid or alkali. Of this a portion was put into one tube; a quantity of pure saliva into another; and some of the same gastric fluid, containing unchewed bread-crumb, in a third. After being kept for twelve hours in the axilla, the first and second had become extremely fetid, and entirely similar; both had deposited little white flocculi, and become clear; both had lost their ropy appearance, and neither of them affected blue paper. The third tube had a sour, but not unpleasant odour; the bread-crumb had become pulpy, and the fluid reddened blue paper powerfully.

In a subsequent experiment, M. de Montegre ascertained that the bread, by becoming sour, had prevented the gastric fluid from putrefying.

M. de Montegre having felt one morning, when his mouth tasted bitter, the last portions of some gastric fluid both bitter and sour, and capable of affecting the usual tests, began to suspect that acidity was a condition depending on digestion, and accordingly swallowed a *demigros* * of decarbonated magnesia. Three quarters of an hour after, he eat some cold mutton with bread, and diluted this meal with a glass of pure water. For the sake of brevity, we present the results in the following form.

Time after Meal.	Changes in the Alimentary Substances.
Half an hour.	No proof of acidity; slight maceration; original taste; no appreciable change.

* The *gros*, a French weight of the old *regime*, is equal to 72 Paris grains, or 59.0697 + English troy grains; consequently the *demigros* = 29.5348 + English grains,—very nearly 1½ scruple.

Time after Meal.	Changes in the Alimentary Substances.
One hour.	Partial digestion; food semifluid, and beginning to be homogeneous; distinct proofs of acidity.
Two and a half or three hours.	Food quite homogeneous; whole mass exceedingly acid.

In the experiment of the subsequent day, M. de M. having removed the acidity, of which there were proofs, by the same quantity of magnesia, devoured a large piece of beef-steak, covered, will it be credited? with melted butter! but using a most necessary precaution in such a meal, enveloped every morsel which he swallowed in magnesia. We present the results in the following manner.

Time after Meal.	Changes in the Alimentary Substances.
One hour.	Only macerated; some fragments detached and attenuated; none pulpy; fluid gave feeble proofs of acidity; tasted only of meat.
Two and a half hours.	All the fleshy portion digested, and reduced to a reddish soup; did not continue consistent.

Of the entire number, eleven experiments, these which we have detailed are the most important; from them M. de M. deduces, he thinks most rigorously, the following conclusions.

1. That the gastric fluid, or the liquor which is almost always found more or less abundantly in the stomach when fasting, is nothing but saliva.

2. That it is impossible to consider this fluid as a solvent *sui generis*, the peculiar properties of which enable it to prevent the putrefaction of animal substances, and still less to accomplish an actual digestion, independent of the action of the stomach.

3. That the acidity which is frequently remarked in this fluid is produced by the changes which the saliva undergoes in the stomach, and which resemble those taking place in alimentary matters in general.

4. That the transition of the alimentary substances to the acid state, is a natural result of the action of the stomach on them, and ought, in point of intensity, to depend on their chemical composition, which facilitates, in a greater or less degree, this acidity, and on the peculiar dispositions of the stomach itself.

5. That the chief purpose of the saliva and the gastric fluid, which are themselves to be digested, is to dilute or liquefy the solid aliments, and certainly to communicate to them, by mixture, a first degree of animalization.

The author has further the modesty to add, but merely as a probable circumstance, that the action of the stomach in diges-

tion is reduced to a vital and elective absorption, in which the absorbent vessels, in consequence of a peculiar sensibility, take possession of certain aliments, but relinquish others, &c.

It is impossible for us, unless we could unlearn the entire doctrines which we have been at infinite pains to acquire during the last fifty years, to acquiesce in these conclusions; nor do we deem it likely that M. de Montegre will find many proselytes, at least in this country. It must be obvious to all, that M. de Montegre being himself the only subject of the experiments, is a very considerable objection. They inform us of the condition of his individual gastric fluid and digestive powers, but cannot be held to communicate any other intelligence. As to the acidity which he found occasionally in the gastric fluid, and always in the progress of digestion, we have had repeated occasion to remark it; but we always looked on it as a slightly morbid state, and by no means necessary to the healthy condition of the process. There are, we conceive, very few persons who eat, drink, and live as the generality of French and English do at present, without producing acidity more or less considerable shortly after eating. We do not even agree with the sentiment expressed in the Report on the Memoir by Messrs Berthollet, Cuvier, and Thenard, that an analogy may be remarked between digestion, in being attended, at least in man, with acidity; and the secretions which, according to Wollaston and Berzelius, may be divided into acid and alkaline. Now this, we conceive, to be a piece of premature theorizing, which might have been deferred till we were quite certain of the fact. We should wish to see the acidity incontestably ascertained, by numerous and varied experiments on many individuals of different ages, nations, and, above all, of different habits, before we attempt to explain it. Till then, we must decline admitting the necessity of acidity, or the explanation of it in healthy digestion in the human subject.

It was to be expected, that, whoever afterwards trod this debateable ground, should examine, and perhaps refute this new doctrine, which brought into discredit the inquiries of so many distinguished philosophers; and we accordingly took up the "General Views" of Dr T. C. Speer, with the hope at least of seeing some notice taken of the matter, if he did not adduce such arguments as would prevent the opinions of M. de Montegre from becoming prevalent. These expectations were considerably encouraged by our meeting the following observations in the preface.

"We need not state, that in this country Physiology has been most decidedly neglected, at least as a distinct science. The scattered discoveries we have made in it here and there, have been too

important not to make us the more regret that we have scarcely a collective and confined system on the subject. The greater part of our physiologists have been merely physiologists on certain organs; each had his particular one to illustrate, and his particular discovery to offer; to this alone his attention was confined—by this, its connexion with the system in general, and its other relations, became neglected—the chain was broken in its links—and thus the science, as a body, has been always in the back ground with us.

"In France, and on the Continent, it has been long taught and studied, as its utility and importance demand. The medical schools in Paris show this; they have not thought that it was more a collection of "matters of fancy," than "matters of fact." They have taken perhaps more enlarged considerations of the animal economy and of medicine; and though their practical views of it as an art may be less accurate than ours, yet we must confess they have often given more dignity to it as a science, by the physiology they have infused into it.

"In the following pages I have attempted to throw a few lights on one of the most important, and perhaps the *most highly vital* of these organs. Much I know has been written on the subject; but much more remains to be written. I have not seen it discussed in the way to which I allude; at least the views taken of it were so mixed up and confounded with others, that they did not come before the reader in that shape which I think they ought to do.—They have been rather the results of individual and solitary cases, brought forward to support certain opinions."—*Speer, Preface*, pp. vi—x.

We regret, however, to remark, that a gentleman who is so sensible of the weak points of British medicine, seems, notwithstanding, to be but indifferently informed with regard to the state of his favourite science in the metropolis of France. From whatever cause it may originate, whether obliviousness or contempt of M. de Montegre's opinions and experiments, for we cannot suppose it to be ignorance, they are not even mentioned or alluded to in the "General Views." We find, indeed, after an elaborate account of the anatomy of the alimentary canal, in which are repeated all the every-day matters which are found in the common treatises on anatomy, from Winslow downwards, with some of those general remarks which may be found in Mr Hunter and Mr Abernethy's works, a rambling sort of jumble of many various opinions, without any attempt at precision, or accurate separation of the true from the false, and the ascertained from the problematical.

After many desultory remarks on the powers chemical and mechanical concerned in the process of digestion, we have a verbose sketch on the vital power, and caloric and nervous action, which is the principal constituent of this vital power, but

which is promptly relegated to the subject of indigestion. Hear the conclusion of the whole matter.

"Thus the general agents of Chymification appear to be *Solution*, both chymical and mechanical—*Trituration*—*Nervous Action*—*Heat*—and *Moisture*: To these may be also added motion (as proceeding not only from the Peristole, which is then so active, but from the motion and pressure communicated by the abdominal muscles and Diaphragm); all seem equally active and energetic; and all their actions seem connected and mixed with each other. The Gastric fluid penetrates and dissolves the new materials—the fibres press on and triturate them—the moisture softens and macerates them—and through the whole mass the newly-created nervous operation, together with the heat and motion, bring about that internal action, to which Fermentation bears perhaps the closest analogy. Indeed the theory of Fermentation is certainly among the most rational that has been proposed for Digestion; but when we consider that fermenting substances require rest, and that in Chymification the materials are always moving—and when we consider some of the other characters and conditions of Fermentation, we shall find this theory inadmissible."—*Speer*, pp. 52, 53.

As our author has not attempted to correct the abuses introduced by M. de Montegre, we must take upon ourselves the task of adducing such reasonings as will perhaps tend to prevent the dissemination of this heresy, which has already, in a modified form, found its way into one of the best elementary treatises on Physiology which this generation has witnessed. †

1. In the *first* place, then, we think M. de Montegre's idea, that gastric fluid is nothing but saliva, is the most improbable and uncertain of all opinions that have been recently brought forward. If the gastric fluid be so, either it must be conveyed from the mouth where it is secreted, to the stomach, or the stomach must secrete the same fluid as the parotid, submaxillary, or sublingual glands. If this be actually the case, we should expect two events to take place; 1*st*, That saliva could perform all the functions of gastric fluid; 2*d*, That a man could digest his food as well in his mouth as in his stomach. That the first of these assumptions is totally false, no one will doubt, who knows that saliva cannot coagulate albuminous or mucilaginous fluids, which gastric juice, at least in its perfect form, can certainly do. That the second one is equally unfounded, will be admitted by every one who knows what a detestable odour is emitted by the mouth and teeth of those persons whose gums are habitually impacted with fragments of masticated food, and

† Precis Elementaire de Physiologie par F. Magendie. Tome II. pp. 12-15.

how unlike to digestion is the change which takes place in these substances.

2. We further think, that it was incontestably proved by the experiments of Spallanzani on himself, and those of Stevens on the Hussar, that there must have been a something,—no matter what,—probably a fluid, but at least something derived from the inner surface of the stomach, which effected in the alimentary mass the changes in which chymification consists. It avails not for M. de Montegre to tell us, that the artificial digestions which he attempted with gastric fluid did not succeed, and that we must therefore have recourse to the gratuitous assumption of an elective absorption, or to say that Reaumur and Spallanzani must have been mistaken in the results which they obtained.

3. Lastly, although they had been mistaken in these points, that would not diminish the weight of the experiments attempted within the stomach with the perforated spheres. We are indeed perfectly willing to admit, that in no instance of artificial digestion, could the precise circumstances in which the food in the stomach is placed be imitated. But this serves only to strengthen the arguments derived from Spallanzani's and Stevens's experiments on the human stomach. When a few crumbs of masticated bread, or a morsel of animal food, is inserted into a tin tube containing gastric fluid, and even exposed to the temperature of 97°, it is, nevertheless, by no means in the same circumstances with that which is deposited in the human stomach. In the glass tube, the same given quantity of gastric fluid continues to act on it until one change takes place; until its exterior surface is rendered soft, semifluid and chymous. But the gastric fluid which was thus employed must have been altered considerably in consequence of this very change; for, in every chemical action, the altering agent is itself affected by the action which it has accomplished. The dissolving agent, therefore, in the artificial digestion, can proceed no further in its action after the change which we have supposed has taken place.

In the cavity of the stomach, however, this solution or conversion into chyme seems to proceed in a manner somewhat different. The primary action of the gastric fluid is indeed very much the same as in the closed glass tube; but, when this is accomplished, the case is no longer similar, or the same. While the interior surface of the glass tube can no longer supply gastric fluid, a constant secretion of this agent is going on in the stomach, and fresh portions of it are incessantly, in the healthy state, poured out on the contents of the stomach. The portion

of gastric fluid which we suppose requisite to act on the exterior part of the alimentary mass is no longer capable of producing any further change; but, being united in its altered state with the exterior stratum of food, is either subjected to the action of the gastric fluid more recently formed, and is thus itself chymified; or, it may be, along with the chymous mass, is removed from the exterior surface of the food, and thus allows a portion not hitherto much altered, to be subjected to the gastric influence. Of these two events, the first has always a tendency to merge in the second; and it is this last which alone constitutes a difference sufficient to occupy our further reflections.

When the exterior chymous layer is thus removed, the subjacent one becomes then the subject of the action of the gastric fluid, the secretion of which continues during the whole time that the food remains in the stomach. The same change takes place with this surface as happened to the previous one; and successively the whole of the alimentary gastric mass is in this manner converted into chyme.

This description of the mode in which the gastric fluid acts on the food in the living stomach of the human subject, has been formed with close and accurate fidelity, from the experiments of those physiologists whom we have mentioned, and from observations made incidentally on the human subject, and intentionally on the lower animals. That the account is a faithful copy of the process of nature, we have every reason to believe; and no one who is conversant with the process, as observed in the lower animals, will venture to controvert it.

If, therefore, this description be correct, it will be found, on examination, that every attempt at artificial digestion, as it has been named, must differ from the process carried on in the natural situation within the cavity of the stomach by at least two circumstances; 1*st*, in the non-removal of the exterior, or changed part of the substance which has been submitted to the action of the gastric fluid; 2*d*, in the absence of the successive portions of freshly secreted gastric fluid—a process which is constantly going on in the living body, but which cannot take place in the interior of a glass or tin tube.

Neither of these circumstances, nor the reflections which preceded them, seem, so far as we know, to have occurred to any previous inquirer; but we rejoice to find, that in many points we have been anticipated by the conclusions which Dr Wilson Philip occasionally mingles with his experimental observations on the process, as remarked in rabbits, &c.

"It appears that, in proportion as the food is digested, it is moved along the great curvature, where the change in it is rendered more

perfect to the pyloric portion. Thus, the layer of food lying next the surface of the stomach is first digested; and in proportion as this undergoes the proper change, and is moved on by the muscular action of the stomach, that next in turn succeeds to undergo the same change.

"As the gastric fluid, to a certain extent, pervades the contents of the stomach, though apparently in no other way than by simple juxtaposition, for the arrangement of the food, above described, we never found disturbed; the change in each part, which in its turn comes in contact with the stomach, is far advanced before it is in actual contact with it; and consequently is, soon after this, in a proper state to be moved on towards the pyloric end.

"Thus a continual motion is going on, that part of the food which lies next the surface of the stomach passing towards the pylorus, and the more central parts approaching the surface; whether food is ever so digested in the small curvature as to be sent to the pyloric portion without having traversed the large curvature, I have not been able to ascertain. When rabbits have fasted sixteen or eighteen hours, the whole food found in the cardiac portion, which is in small quantity compared to what is found in it after a fast of moderate duration, seems to be all nearly in the same state with that next its surface, the gastric fluid having pervaded and acted upon the whole, and is consequently, as far as we can judge, prepared to be sent to the pyloric end." pp. 58, 59.

The changes which the food undergoes in the stomach, which have occupied such a disproportionate space of this article, seem to have prevented physiologists from bestowing a due degree of attention on the next part of the process of alimentation. The changes which the chyme subsequently undergoes in the duodenum, are at once more obscure, and have been less investigated, than those alterations which we have already considered. It is believed in general, that they are accomplished by the affusion and combination of the biliary and pancreatic fluids with the chyme, as it is only at the level of the duct by which these fluids are conveyed into the intestine that the chyme begins to change its properties. Its colour then becomes yellowish, its taste bitter, and its sharp odour diminishes considerably. If it has been formed from animal substances or vegetable matters which contain fat or oil, we see formed, at various points of its surface, filamentous substances of an irregular figure, sometimes flattened, at other times rounded, which quickly attach themselves to the surface of the valvular folds of the intestine. These appear to be the chyle in a rough state. This filamentous matter is not observed in chyme formed from food not containing fatty matters; in these it is a greyish layer, more or less thick, which adheres to the

mucous membrane, and which appears to contain the elements of chyle.†

It would be vain for us to fill our pages with the whimsical fictions with which authors have amused themselves in explaining the properties and effects of bile. We can scarcely mention any writer whose speculations on this head merit attention, except Dr Saunders and Mr Abernethy; but even the information which we glean from them, on the changes which take place in the chyme after quitting the stomach, is exceedingly scanty, and sometimes vague.

Amidst the sceptical ignorance in which one class of physiologists would leave us, and the all-explaining hypothetical descriptions with which others have favoured us, it is impossible not to think, that there is a want either of precise and unquestionable facts, or of accurate and logical reasoning. There are, indeed, some leading points which are well ascertained; while others are so uncertain or equivocal, that it is difficult to know what we ought to believe. We shall attempt to separate these from each other, in the form of a series of questions.

1*st*, Is the biliary fluid requisite for the formation of chyle? Or does this substance exist already formed,—and does it merely require to be detached by some energetic agent?

2*d*, If the chyle exist in the chyme already formed, is it detached from the latter merely by some elective power of the chyliferous absorbents? or does the biliary fluid perform an active part in the separation?

3*d*, If the biliary fluid be necessary to this separation, in what mode does it effect its purpose? what ingredient of this fluid is essential and principal, and what is accessory?

We have already stated, that the chyme, as it is prepared in the stomach, remains unchanged even in the pyloric portion of the duodenum; and that it is only at the level of the orifice of the biliary and pancreatic ducts that an imperfect chyle can be observed. To this we may add the anatomical fact, that no chyliferous vessels have been observed to arise from the internal surface of the stomach or pyloric part of the duodenum; so that it cannot be expected that the chyle should be prepared in a situation where there are no vessels to absorb it. It appears, therefore, to be certain, that the chyle is at least never formed before that point of the intestine at which the biliary fluid can have access to the chyme. But it is by no means equally certain, that whenever the bile has access to the chyme, a portion

† Précis Elémentaire de Physiologie, par F. Magendie, pp. 92, 93.

of chyle is formed; and that, when the flow of the biliary fluid is obstructed, this process is either imperfectly performed, or entirely interrupted. We think however that, in the cases alluded to, the suppression has existed too short a time to draw any fair inference; and it ought to be kept in mind, that the functions of an animal body have a property in some instances of accommodation, by which a secretion like the biliary may be for a short time suspended, without producing fatal inconvenience. But even in persons affected with jaundice, or other maladies in which the proper application of the bile to the chyme is prevented, we cannot say that the adequate changes are produced in the alimentary substances. The emaciated unhealthy appearance, the loss of appetite, and the sense of languor and debility, are sufficient to show that the process of chylification is not perfectly accomplished; and if such a cause continued to operate long, we have no doubt that the symptoms of deficient nutrition would be abundantly obvious.

A more important desideratum in this investigation, however, occurs in the following question:—Are there any instances in which chyle was not perfectly formed, when healthy bile was poured into the duodenum? So long as no example of this kind occurs, we are at liberty to think that chyle cannot be formed without the affusion of biliary fluid.

When we come to inquire into the kind of effect which the bile produces in the chyme, we are met by explanations, numerous, hypothetical and unsatisfactory, which may be omitted entirely, while we state what may be precisely and certainly concluded from the knowledge of its chemical composition. To omit the discordant and sometimes absurd results of most of the analyses of the biliary fluid, we consider it as ascertained by the inquiries of Berzelius, that bile consists of ingredients, which may be referred to three heads only—1. Water; 2. Saline substances; 3. Peculiar biliary matter.

The saline substances, which are nearly the same, and in the same proportion, with the exception of a trifling excess of alkali, as in the other animal fluids, can have no peculiar effect, we conceive, in inducing the alteration which the chyme undergoes in the duodenum. The water may be viewed as a diluent or vehicle of that peculiar matter which characterizes the bile; and which is, to a certainty, the great agent of those changes which, for the sake of brevity, we denominate *eucholosis* or *biliation*. It is this peculiar matter which effects the separation of the chyle from the chyme, and upon the state of which, the perfection of this separation depends. It avails not to tell us, that, in many persons in whom the secretion of the biliary fluid

is for a considerable time either wholly suppressed, very deficient, or much depraved, it does not appear that the nutrition of the body is defective.* It may not be defective;—nay, it may sometimes be excessive; but the point at issue is, whether the individual enjoys good health;—whether the digestive or alimentary functions are performed in the proper manner;—whether he feels that easy and tranquil state of body and mind which denotes the vigorous and sane exercise of the most important actions of alimentation. We contend, that there is almost no instance in which this secretion is excessive, defective, irregular or depraved, in which the alimentary function is not proportionably altered. There may indeed be modifying causes which may counteract the effects of such deviation, if only temporary, or of short continuance; but when they have lasted for any time, the state of health which follows is in general characteristic enough.

Although we trust that we have established that the peculiar biliary matter is the prime agent of encholosis, in opposition to the chemical fancies of the saline and albuminous matters going one way, and the oleaginous and resinous another in the process; yet we fear we cannot pretend to enter into the examination of the exact mode in which the change is accomplished. It is certain, from the analysis of Berzelius and the best chemists, that the biliary matter is itself decomposed; but no part of it seems to unite with the chyle; for the whole almost is found either partially or entirely decomposed in the feces. It would appear, that on this susceptibility of decomposition depends in a great measure the healthy performance of the function. If the biliary matter be not decomposed, a violent derangement of the alimentary canal ensues, and, in various degrees, constitutes bilious vomiting, bilious diarrhœa, and absolute cholera. That this is literally and truly the case, we conceive to be proved by the fact of biliary matter being, in such circumstances, expelled undecomposed from the mouth and anus.

We have dwelt so long on the subjects of digestion and encholosis, that we cannot extend any further on the subsequent processes of alimentation, which indeed are rather to be viewed as supplementary, and much less important. But it may not be uninteresting to remark, that these primary and essential agents are much influenced in their action by others which may be denominated accessory. These are the temperature of

* Surgical Observations on the Constitutional Origin and Treatment of Local Diseases. By John Abernethy, F.R.S. &c. &c. Fifth Edit. 1820. p. 32, &c.

the viscera, the motion which they receive from the organs of respiration, and the compressing force to which they are subjected in consequence of being placed between two muscular organs, the diaphragm on the one hand, and the abdominal muscles on the other. These accessory promoters, as they may be called, of alimentation, have been commonly noticed by physiological writers as influencing digestion, or the action of the stomach only: but they ought to be viewed as circumstances common to the whole of the alimentary viscera. It is evident that they act not only on the stomach, but on the whole alimentary canal, with the exception perhaps of the duodenum, the immovable situation and comparative rest of which are perhaps necessary to the changes which take place in its interior. The influence of these causes is very conspicuous in individuals of active and laborious habits; and we may learn that they are beneficial, from observing the effects which take place when they are either impaired or diminished.

We have been somewhat minute, and, we fear, rather tedious, in examining the evidence on which the theory of digestion rests; because correct views of the nature of the alimentary function are particularly important at present, when the peculiar circumstances of society render it so liable to derangement and irregularity. In a refined and wealthy community, where every thing tends at once to foster and gratify the taste for luxury, many causes conspire to induce unhealthy states of the alimentary function, and the organs concerned in it.

We cannot indeed say that such diseases fall uniformly and exclusively on your fashionable *gourmand* or your turtle-eating alderman; but it must be obvious, that affections of the alimentary canal, and derangement of its functions, are generally more frequent in such a state of society as the present, where the operation of habits of this description is favoured by the aversion to the laborious and manly exercises, which seldom fails to distinguish the more refined stages of society. Inactive and luxurious habits, the pleasures of the table, and every gratification which a skilful and inventive system of cookery can contrive, to rouse a torpid, or generate an artificial appetite, all tend to impair, not only the strength of the constitutional powers, but, in a particular manner, those organs to which causes of this description are more directly applied. It is the apparatus destined to nourish and strengthen him, that originally and principally suffers from the unnatural habits of man in polished life; it is this part which then becomes the seat and source of numerous and complicated maladies,—which imbitters every enjoyment of life, obscures every faculty of his soul, and converts even his food into poison and death.

Some of these causes to which we have alluded operate more particularly on one part of the alimentary canal, and thus induce a condition unfavourable to its healthy action; while, in other instances, we find a different part of it rendered the seat of disease. But in whatever point the morbid condition originate, it rarely happens that the entire apparatus is not affected in a considerable degree, and that the general health does not suffer from the continuation of such deranged action. It is this proteiform hydra, in the shape of diseases of the digestive organs, which infests the abodes of luxury and fashion, and is the most perplexing enemy—we are not so selfish as to call him a friend—of the physician's endeavours. We believe every medical practitioner, who is conversant with the practice of a rich and populous town, finds that the greater part of his care and attention is occupied in combating affections of the alimentary canal, or obviating the unpleasant effects which are produced by irregularities in the actions of its parts. Corresponding to the predominancy of such maladies, we find the attention of physicians and the publications of medical writers; and we think few will venture to doubt, that, during the last twenty or thirty years, there has been a greater number of publications on this subject, and those more immediately connected with it, than on any other in practical medicine. We have had hosts of authors on stomach complaints; derangements of the *primæ viæ*, and their effects on the economy; gastric affections, intestinal affections; many on the deranged secretion of the liver; and not a few on the effects of mineral waters, and some of the more energetic articles of the Materia Medica, in palliating, relieving, or removing these diseases. Many of these performances are of course destined, after enjoying a merely ephemeral celebrity, to sink into merited oblivion; some never attain any remarkable portion of public attention; and a few, perhaps, will outlive the caprices of fashion and opportunity, and either retain the deserved renown which they have acquired, or continue to be more highly prized the longer they are read. We cannot join in the general opinion of reviewers, that the two former classes of works ought never to have seen the light; for we consider it as an established point, that, in order to have any thing very good, there must be much mediocrity, and a good deal of matter which is either useless, or positively bad; and we think that it is a pretty uniform law in the arrangement of human affairs, that the greater the number of competitors, the more is the chance of eminence and excellence.

Among the many treatises which have been published since the time of Dr Cullen on this subject, we can hardly men-

tion more than two, the character of which is of that superior nature which will ensure their value, we may say as long as medicine shall be studied and practised. The treatise of Dr Hamilton on the Effects of Purgative Medicines, and Mr Abernethy's Observations on the Constitutional Origin and Treatment of Local Diseases, require no praise from us; for they have already received from the profession the most gratifying of all testimonies regarding their merit. Since the publication of these works, several have appeared on the same subject, as we have already hinted; but none, perhaps, could come before the world and the profession capable of exciting interest equal to that which we believe must be very generally felt, at the appearance of the work which forms the principal subject of this article. The author has been long known as a most enthusiastic cultivator of the medical sciences; as a gentleman who, though external circumstances rendered exertion less necessary to him than to many others, has never ceased to avail himself of every opportunity of elucidating those processes of the animal economy, the knowledge of which would be the most beneficial to the practice of the healing art. His writings, which are somewhat voluminous, have been long before the world; and his character as an author must have been estimated with tolerable accuracy some time ago. His reputation, indeed, in this respect, and further as an experimental physiologist, is so considerable, that every thing which issues from his pen is received with a degree of respect, which shows that he has not entirely laboured in vain. Yet we cannot avoid thinking, that there is a want of that precision and accuracy which ought ever to characterize the philosophic physiologist. His reasoning is often vague, his arrangement often confused; and although he writes on the whole well, yet it wants that life and effect which carries conviction with it. His style is diffuse, and remarkable for employing a multitudinous array of words to express very simple thoughts,—it wants concentration and strength. We trust that Dr Wilson Philip's reputation is so well established that it cannot be affected by our opinions; but we fear we are not solitary in thinking, that, although the present work would be creditable from any other hand, yet it will add nothing to his fame. In a respectable octavo of 360 pages, we might certainly expect the man of genius to shine through at some parts of a subject on which so much has been accumulated; yet we toil through the book with a sensation of *ennui* and defect of interest which is quite unaccountable. Although the information collected is actually great and useful, yet the manner in which it is communicated is not favourable for reference. In

indeed, does not hesitate to say, that the reader will not always find titles in the body of the work corresponding to those in the table of contents; and the reason which he assigns for this, viz. the intimate connexion of the individual subjects, is certainly very insufficient; for it would apply with equal force to any score of subjects on which books are daily published. The object of the author is stated in the beginning of his Preface in the following manner.

"My chief objects in the following Treatise have been to give arrangement to the various affections which have been termed Nervous and Bilious; to ascertain the nature of the disease on which they depend; to trace the causes which determine them to assume the various forms in which they are presented to us, and to determine the appropriate treatment of each of these forms." *Pref.* p. xi.

He subsequently, in a short but perspicuous Introduction, states the importance and difficulties of the subject; and announces the general arrangement which he adopts. From it we give the following extract as the author's account of his work.

"It is a remarkable fact, that there is hardly any disease less understood than that which is most frequently presented to us, and known under the vague denominations of bilious, nervous, and stomach complaints; which seems the more extraordinary, because there is none of greater importance, whether we regard its variety, its consequences, or its connexion with other diseases." p. 1.

"The following Treatise may be divided into four parts:—In the first, I shall present to the reader a review of the symptoms, and more immediate consequences of Indigestion; in the second, consider the remote causes of this disease, the manner in which they excite it, and the nature of the changes which take place in its progress; in the third, detail the plans of treatment which have appeared to me most successful in it; and in the last, make some observations on the symptoms and treatment of the organic derangements, in which it often terminates." p. 4.

From the views which we have already given, it will be easy to see how many causes may derange the function of alimentation, and induce symptoms of indigestion. Dr Wilson Philip adheres to the safe and useful division of remote and immediate. The former he divides into those which act directly on the stomach and intestines, those which act on other parts, and those which affect the whole system, (p. 70.) In illustrating the operation of these causes, we encounter a great deal of the usual disjointed and pointless mode of reasoning, of which we have already spoken; and, indeed, he observes so little order in this part of his subject, that it has the air of a few unconnected and desultory remarks rather than a classification of the causes, and a clear statement of the mode in which they operate. The di-

vision of the causes, it is to be noticed, is precisely that of Dr Cullen, with the addition of the intestines to the first head of causes; but we find no elucidation of this accessory part; nor does the author give us any precise information on the second and third heads.

On the second part of his general division, our author observes—

"The immediate causes of a disease are the states of body induced by the remote causes, and from which all the symptoms more or less directly arise. A knowledge of these causes is of the greatest importance in conducting the treatment of the disease. Where we are altogether ignorant of them, the treatment is founded merely on the principle of employing the same means which have formerly proved useful, and which were originally suggested by our general knowledge of the laws of the animal economy, or by accident. But it is only in proportion as we are acquainted with the immediate causes of a disease, that we can with any confidence, or great chance of success, so influence those laws, as to restore due action to the diseased part; and in the instances, in which, after having long treated diseases on the vague principles, which are our only guides when the immediate causes are wholly unknown, we have at length arrived at a knowledge of these causes, we perceive that many parts of our former plans were superfluous, and not a few, although affording some present relief, injurious." *Philip*, pp. 84, 85.

Now, we are certain that all this vague and tedious dissertation might have been avoided, by a more judicious arrangement of the subject. It had been better, we think, to place the immediate causes, or rather the pathological states—for we conceive this to be what the Doctor is aiming at—of the alimentary organs, which give rise to the assemblage of symptoms named dyspepsia, indigestion, &c. first, and then to consider the remote causes and their operation after these. But as this arrangement is at the best an inconvenient, if not an imperfect one, and as even the Doctor himself admits the propriety of a knowledge of the agents employed in health, in order to show their modified operation in disease, we would recommend the following arrangement, as one which should include all the causes, immediate and remote, which induce the disease.

I. Derangement in the primary or essential agents of alimentation.

II. Derangement in the secondary or accessory agents of alimentation.

Of the former, we give the following subdivision.

1. Changes in the state of the mechanical processes of mastication and insalivation.

2. Changes in the state of the gastric fluid.
3. Changes in the state of the gastric mucous membrane.
4. Changes in the state of gastric muscular fibres.
5. Changes in the state of the biliary secretion.
   Under this head, we notice the circumstances which may influence the biliary secretion.
   α, States of the hepatic capillary system.
   β, States of the capillary system of the portal veins.
   γ, States of the excreting ducts.
6. Changes in the state of the pancreatic secretion.
7. Changes in the state of the intestinal mucous membrane.
8. Changes in the state of the intestinal muscular fibres.

It is evident that these individual morbid conditions may be referred to four general heads, according as they are more especially seated in the mouth, stomach, duodenum, or small and large intestines; and we think it requires merely a knowledge of the healthy state to comprehend how they are to act in the morbid. There is only one of these conditions which requires perhaps to be particularly inquired into,—the influence which the contents of the intestines have on the capillary system of the portal veins, and, consequently, on the biliary secretion. The recent experiments of Tiedemann and Gmelin, those of Mayer, of which we gave an account in a recent Number, † and those of Magendie, show that the venous *radiculæ*, which arise from the ileum, absorb with great facility almost all substances which are applied to the mucous membrane. It is easy to see, therefore, that, whatever be the nature of the intestinal contents, the blood in the portal veins will be modified by it, and, consequently, the secretion of bile be subject to fluctuation and modification from this cause. In this manner, if the contents of the intestine be detained longer than is proper, the biliary secretion must be very much affected by it, be more tardy, and perhaps less copious and less pure, than in circumstances of healthy intestinal action. In this way, we believe, may be explained the imperfect alimentation which arises in the system, in consequence of long habits of constipation, and likewise the mode in which remedies often operate. The blue pill seems to be often taken up by the *radiculæ*, and thus to induce a new action in the blood of the portal capillary system. In cases of purgative remedies, it may happen that part of the substances employed may be actually absorbed by the venous *radiculæ*, and there occasion a peculiar change in the biliary secretion; or, by the removal of substances injurious to

† *Vide* p. 455 of this volume.

the intestinal tube, may prevent them from affecting the action of the liver. This appears, we further think, the only rational mode of explaining the intimate connexion which subsists between the liver and intestinal tube, and which may be remarked in most of the affections to which the latter part especially is liable.

When the qualities of the agents concerned in healthy digestion are so altered that they cease to operate on the food in the usual manner, the contents of the stomach may remain to a certain extent unchanged, but ultimately undergo spontaneous decomposition; an event, the earlier or later appearance of which depends on the chemical nature of the substances eaten, and on the temperature and fluidity in which they are subsequently placed. It is well known that the alimentary mass in such circumstances produces, both on the organ in which it is contained, and on the system at large, effects very different from those which arise from the presence of healthy chyme; and that these effects must in general augment in its progress through the canal, to every point of which substances are successively and continually applied in which the necessary qualities are wanting. The whole of the effects to which we allude, and which have been named by practical authors symptoms of indigestion, are divided by Dr W. P. into three stages:—the first characterized by the ordinary symptoms of dyspepsia; the second, by the circumstance of tenderness of the epigastrium, and hard pulse being superadded; while, in the third, the morbid phenomena of the two previous stages have induced some organic change in the texture of one or more of the chylopoietic viscera, or, as it may happen, in those of the head or chest. That our readers may be enabled to form some conception of these organic changes, the author shall speak in his own person.

"With regard to the circumstances which dispose the sympathetic disease to affect one part in preference to another, we have reason to believe that this is chiefly determined by different parts in different individuals being more liable to disease than others, and therefore feeling more the cause of irritation which affects the whole system. Thus, in children who are disposed to inflammation and subsequent effusion in the ventricles of the brain, Indigestion often terminates in hydrencephalus internus. From about fifteen to thirty-five years of age, the disposition to affections of the lungs is greatest, and it often produces phthisis. At a more advanced period, a tendency to disease of the rectum prevails, and in old age to affections of the heart and head, the latter however of a different nature from those to which children are subject; and we still observe the tendency of indigestion to produce the disease to which the system is disposed, whatever be its seat."—*Philip*, p. 45.

We think there are good grounds for this threefold division of the symptoms of indigestion; but we confess we found it difficult to obtain from his short history any clear or distinct notions of the different stages. This desideratum, however, is supplied in another part of the work, where it is not likely our author's readers will look for it. We find, in truth, much more information on the nature of these different stages, and especially the two last, in that part of the work which is devoted to the treatment of the disease; but it must occur to every one, that such violation of the order which is adopted, will tend very considerably to perplex and confuse the ideas of the student. An obvious evil which results from this style of communicating knowledge, is the frequent repetition of subjects which have already been noticed, and the anticipation of those which were yet to come. For although it may be said that this inconvenience is to a certain extent unavoidable, yet we think it might, in the present instance, have been much less frequent, had the author bestowed a little more attention on the arrangement of his work.

Dr W. Philip is at great pains to elucidate the mode in which the morbid changes are effected, and in which they give rise to the symptoms of the different stages. After a discussion of some ten pages on the eighth pair, and on the muscular power of the stomach, in which the nervous sympathies of Willis and his followers are dispersed in thin air, and the influence of juxtaposition erected in their place, the author's experimental inquiry and Mr Brodie's experiments are made to inculcate the following dogma,—"That any diminution of the extent of the organs which supply the nervous influence, affects the state of the secreting surfaces, and impairs the evolution of caloric." After some desultory ponderings on Mr Abernethy's cases, and on certain observations of Mr Guthrie in his work on Gunshot Wounds, we find the following summation.

"When the whole of the facts which have been laid before the reader in this and the preceding sections, are kept in view, it seems easy to point out in what way the remote causes of indigestion operate in producing all the symptoms of what I have called the first stage of this disease. The debility induced by these causes on the muscular and nervous powers of the alimentary canal, on the one hand, by preventing the due change on the food, and its due discharge into the duodenum, and progress throughout the rest of the canal, produces the symptoms which immediately arise from undigested food; and on the other, either by its direct effects in the stomach and bowels, or through the operation of the undigested food and vitiated secretions, excites the nervous derangements which affect these cavities themselves, or other parts.

"But in the second stage of the disease, we see a change which cannot be referred to either of these heads; I mean the occurrence of tenderness in a certain part of the epigastric region above described, which hardly ever fails to supervene in protracted cases, and, when considerable, to be accompanied with a pulse which will be found more or less hard, if examined in the way above pointed out, and some of the other indications of fever which have been enumerated."—*Philip*, pp. 99–100.

The subsequent parts of this section are, on the whole, very interesting; and the patience of the reader will be rewarded with some useful information on the semeiology of the disease.

The treatment of indigestion forms, we conceive, the best part of our author's performance. It certainly occupies by far the greatest proportion of it; and we must admit, that the Doctor bestows on the subject the fullest consideration. The remedial management is naturally suited to the different stages of indigestion; and the author very rationally commences with dietetic directions, which imply, to a certain extent, the removal of the exciting causes of the disease. But we have here again the same unpleasant disorder to encounter; for, instead of confining himself strictly and closely to mere treatment, Dr Philip intermingles innumerable physiological and pathological observations. Now, we have only to ask, why did not these come in their proper place, and not meet us *passim* where we least expect them? The remarks and reflections are of themselves good, but they are totally misplaced in the situation in which they are found.

When we are following the author in his reflections and reasonings on one subject, which we are led to expect will be fully and consecutively investigated, the chain is abruptly and suddenly broken off by some extraneous remarks,—some insulated episode, which it must be acknowledged is excellent in its kind, but ought certainly to have been presented in another place. It will not perhaps meet with very ready belief, that, after a discursive sort of treatise on the bile and best mode of administering the blue pill, our author gives us a dissertation of seven octavo pages, in which it is difficult to see what is the main subject of consideration, but in which the discordant articles of air, hot, cold and moist, saline medicines, mercury, colchicum, antimonial medicines, change of air, travelling, and, lastly, a *tirade* against fancy, as a cause of weal or woe, are made to perform conspicuous parts. He then launches into a very protracted discussion, the chief business of which seems to be, to illustrate the nature of the second stage of indigestion. To accomplish this desirable object, he lays under contribution the green jaundice of Dr Baillie,

sympathetic action and nervous irritation begetting inflammatory affections, the liver as the first organ which partakes of the disease of the alimentary canal, blood-letting, irritation of the bowels, opening medicine, symptoms of pectoral affections, palpitation, rheumatic limbs, affections of the head, blood-letting once more, nervous apoplexy (what apoplexy is not so?) and closes the whole with a general recapitulation. Of all this, we can make room for the nervous apoplexy only.

"Alarming as some of the inflammatory affections of the head are, its nervous affections connected with irritation of the digestive organs, contrary to what we see in other organs, are often still more so; and when they occur in the second stage, supersede the inflammatory tendency. They appear to be of two kinds; the one arising from long-continued irritation of the nerves of so important a part of the system as the digestive organs, directly debilitating and sometimes wholly destroying the source of nervous influence; the other from this irritation affecting the state of the vessels of the brain, and consequently the distribution of that portion of the blood which is sent to the head.

"The former of these is only a greater degree of the affection which is usual at all periods of Indigestion. Giddiness and temporary loss of power, or vitiated feeling in various parts of the body, we have seen, are not uncommon symptoms even from the commencement. But it is in those cases where powerful and repeated causes of irritation on the one hand, and, on the other, the continuance of that general derangement occasioned by Indigestion, which every where affects the secreting power, and consequently the state of every part, have gradually enfeebled the powers on which the supply of nervous influence depends, that these symptoms become formidable. It is not very unusual, under these circumstances, to see the patient, after the above symptoms have frequently recurred, and sometimes without this warning, suddenly fall down, and in a few hours, and in some cases almost immediately, expire.

"In such cases the aids of medicine are vain. The powers of the constitution are not oppressed by disease, but worn out by its continuance. This is what is properly termed nervous apoplexy, the most fatal of all its forms; and it has been remarked, that in some cases no morbid appearance presents itself on dissection. The fatal derangement is in the nervous system alone, whose structure is too minute for our observation. If the usual plan of bleeding in all cases of sudden insensibility be here resorted to, the disease is only the more suddenly fatal.

"The state of the brain in such cases resembles that which Surgeons call concussion. Its mechanism is deranged. The difference is, that in the one this mechanism is deranged by a sudden and violent cause, applied while the powers of the system, with the exception of the effects of this cause, are entire, and which, if the little

strength which remains is carefully husbanded, may often repair the injury: and the other is the effect of a succession of slight causes gradually changing the mechanism of the brain, and at the same time exhausting the powers of every other part, so that the constitution possesses no means of repairing the injury.

"The pure nervous apoplexy, however, as here described, is necessarily an extremely rare disease; because it very seldom happens that the causes continue long enough so to derange the finer mechanism of the brain as to produce loss of function, without influencing the state of the circulation in it in such a manner as to produce a fatal effect in this way.

"There is something at first view very inexplicable in the phenomena of apoplexy, such as it often appears in those who have long laboured under the more severe forms of Indigestion. Dissection has not only shewn that sanguineous apoplexy, which is generally attended with a flushed countenance and strong beating of the temporal arteries, sometimes occurs, when, from the paleness of the countenance and the previous symptoms, as well as nervous habit of the patient, we should have expected to find the blood in the brain rather below than above the due quantity; but that such is often the state of the vessels of this organ, when the countenance, on the attack of the apoplexy, becomes much paler than before, and the beating of the temporal arteries hardly perceptible. Nay, such cases will often be relieved by blood-letting, although it is always prudent to employ it with the greatest caution; for, independently of other considerations, we have no certain means of distinguishing them from the case we have just been considering, in which blood-letting always hastens the fatal termination." *Philip*, pp. 275—277.

The most interesting, and certainly the most original part of the book, is yet to come. This is the account of Dyspeptic Phthisis, a subject to which Dr W. Philip called the attention of the profession, about sixteen years ago, in his Treatise on Febrile Diseases. Every one, we believe, is acquainted with the well-marked case of Mr Abernethy's coachman's wife, who got rid of her phthisical symptoms by the salutary influence of the pills of calomel and opium on the chylopoietic viscera. Dr P. has had occasion to observe several cases of this description, and the result of his observations is here laid before the public in a more enlarged state. The dyspeptic phthisis seems to differ from the usual forms of the disease, chiefly in the mode of its origin. It is preceded by lasting and obstinate symptoms of indigestion; by dyspnœa, and violent paroxysms of cough coming on, and continuing for some time after eating, or in the recumbent position. The emaciation is less rapid, and the hectic fever is generally formed later than in the usual kinds of phthisical disorganization. While Dr W. P. is reasoning and medi-

tating on the nature of this malady, he is unavoidably led to Mr Abernethy and the blue pill; and we are forthwith entertained with a digression on a gentleman with severe pain of the legs, tender epigastrium, and deranged digestive organs; a lady with glandular swellings, disordered bowels, and tender epigastrium; a patient with angina pectoris—all which yielded to the celestial blue pill; and, as a *finale*, Dr Cheyne, Dr Yeates, and the *Hydrencephalus internus*, are brought forward. The treatment of this disease occupies so much of our author's attention, that abridgment would only injure it; and as we would not, for the riches of the caves of Istakhar, be accessory to such an outrage, we must refer our readers to the work itself.

The Second Section of this Part presents us with an Essay on Habitual Asthma, and the power of galvanism in removing it. This disease, which is a symptom and a sequela of indigestion, and sometimes continues after all the other symptoms have been removed, consists in constant oppressed breathing, better and worse at different times, but never entirely free, considerable cough, with the secretion of viscid mucus or phlegm, as Dr P. names it, from the bronchial membrane, which is in general expectorated with great difficulty; and in some cases disappears, according to our author, without being coughed up. This condition of the bronchial membrane, our author deems analogous to that produced in brute animals by the division of the pneumo-gastric nerves; and conceives to arise directly from an impaired secreting action in the human subject, depending on the weakened nervous influence of the lungs. The remedy which has uniformly relieved and sometimes cured it, is galvanism; which either occasions the disappearance of the mucus, or its expectoration, and thus relieves the breathing. The application is contraindicated only when there are inflammatory symptoms, which must be combated in the usual way by venesection. Of two cases which are given to illustrate the nature of the disease, and the power of the remedy, we select one.

"The first was made on an intelligent lady, of about thirty-five years of age, who had for many years laboured under habitual asthma. Her breathing was very much oppressed at the time when she first used galvanism. The immediate effect was, that she breathed with ease. She said she had not breathed so well for many years. Part of the relief she obtained proved permanent; and when she was galvanised once a day for about ten minutes, she suffered little dyspnœa at any time. After she had been galvanised for eight or ten days, I deceived her in the manner just mentioned. The deception was complete. She told me to increase or lessen the force of the galvanism, as she was accustomed to do, according to the sensation it produced. I obeyed her directions, by increasing or lessen-

ing the force with which I scratched the neck with the wire. After I had done this for five minutes, she said the galvanism did not relieve her as usual, and that she felt the state of her breathing the same as when the operation was begun. I then allowed the galvanism to pass through the chest, but only through the upper part of it, the wire in front being applied about the middle of the sternum. She soon said that she felt a little relief; but although it was continued in this way for ten minutes, the relief was imperfect. I then directed her to apply the wire in front to the usual place, so that the influence might pass through the whole extent of the chest; and, in a minute and a half, she said her breathing was easy, and that she now experienced the whole of the effect of the former applications of the remedy." *Philip*, pp. 358–360.

The work of Mr Law we consider for two reasons—its unassuming character, and the extreme youth of the author—as scarcely a fair subject for the severe justice of criticism. The whole book consists of six sections, in each of which the author doubtless intended to treat of particular subjects, or separate divisions of the entire subject; but they have, notwithstanding all his precautionary efforts, intermingled in such a promiscuous and irregular manner, and the reasonings and reflections destined to each have so run off at random, in all sorts of improper directions, that it becomes no easy matter to recognise the scattered fragments of the author. It may not, however, be without its use to our readers to say, that the chief object of Mr Law seems to be to discriminate the kinds of treatment suited to different forms of disorder of the digestive organs, and to assign to each its appropriate virtues. Our professional brethren may not indeed be willing to admit that this object has been accomplished, and may not perceive much novelty in the "Observations;" yet we deem it an auspicious omen of Mr L.'s future services to the art, when we see him at once convinced of the important and complicated nature of the subject, and following the path of an observer of Mr Abernethy's bold and original mind.

If there be any wisdom in antiquity—if there be any truth in ancient sayings—if, in short, we are to rate the merit of a work in the inverse ratio of its size, then the little tract of the author of the "Cook's Oracle" must be excellent. The "Peptic Precepts" form a small portable duodecimo, containing a variety of practical directions for preserving a good appetite if one has it, and improving it if indifferent. It is difficult to say in what light we are to view the author; for the easy style of assurance with which he offers his advice gives

him an air of charlatanism, which is in some measure forgotten by the quality of his occasional remarks, and the very rational instructions which are generally founded on them. We cannot, however, pledge our regular authority to sanction every thing which the author has advanced. His work is chiefly practical; but he sometimes dabbles a little in pathology, and we cannot say with the best success. His pretensions, however, it is to be remembered, are not great; and where he has confined himself to his own peculiar sphere, he has acquitted himself well. He is obviously a man who thinks that one of the best possible things in this nether world is a good dinner, and a good appetite to enjoy it: and it is not consistent with the wonted arrangement of things, that all good qualities should coexist in the same single person. For,

> " When a roast or a ragout,
> And fish and soup by some side dishes backed,
> Can give us either pain or pleasure; who
> Would pique himself on intellects, whose use
> Depends so much upon the gastric juice? "

We think, in fine, that Apicius Redivivus, or Dr Kitchiner, had early discovered that he came into this breathing world for the grand purpose of providing enjoyments for the noble sense of taste. It is needless to add, that he has fulfilled his vocation well. With unfeigned regard we recommend his labours and services to all and sundry lovers of good eating, whether that faculty develope itself in the bosom of the pursy Alderman, or the more delicate person of the fashionable Exquisite.

II.

1. *Facts and Documents relating to the Establishment of the Ophthalmic Hospital.* 8vo. pp. 29. London, printed by L. Harrison, 373, Strand, 1821.
2. *First Annual Medical Report, detailing the Cases of all the Pensioners labouring under various Diseases of the Eye, &c.* By Sir William Adams. 8vo. London, 1819.
3. *Report submitted to His Royal Highness the Commander-in-Chief, upon the Subject of the Out-Pensioners of Chelsea Hospital, &c. &c., with an Appendix.* 8vo. London, 1819.

It has been our duty to submit to the profession, within a short period, the result of a Parliamentary Inquiry into two me-

dical subjects of very serious importance—Plague and Epidemic Fever: We are now to lay before it a third, not perhaps of such universal interest, but certainly of sufficient consequence to justify us in bestowing some time and research upon it—we mean the investigation of Sir William Adams's claims to a national reward for his new and successful methods for the cure of Ophthalmia, and for its eradication from our armies. The person solely interested in the pecuniary part of this inquiry has embodied his claims in the pamphlet, the title of which stands at the head of this article; and although certain wiseacres have assumed the very convenient doctrine, that a Book is not published if it be not sold; yet, as we are informed that a large impression of this paper has been distributed to the Members of both Houses of Parliament, and gratuitously circulated through various channels, and since, to our knowledge, copies are in the hands of many of our readers, we shall take the liberty of considering it as a legitimate subject of criticism. Without entering into the question of the delicacy of putting forth such a statement while a solemn investigation was pending, we shall endeavour, now that the Committee has closed its labours, to present to our readers such a general outline as may put them in possession of the merits of the case. On one point only we shall be silent, since it refers to the case of an officer that has already undergone public investigation before a competent tribunal. Indeed, did we state that case as the writer of the pamphlet has allowed himself to do, we are not certain that we might not bring ourselves within the penalties of the law of libel. Of one thing, however, we are quite positive, that no man, possessed of one spark of generous feeling, could have interwoven in the texture of his story an episode, which, devoid of any intrinsic value for his purpose, must necessarily have inflicted a most serious injury upon the character of an absent individual.

As Sir Willam Adams's statements are somewhat diffuse and declamatory, we shall not follow the exact arrangement of "the Facts and Documents," but shall divide them into—1*st*, the detail of his introduction to, and connexion with, the army; and, 2*dly*, the collateral matter which he brings forward. It appears, then, that Sir William Adams, while practising at Exeter in 1809, had restored several blind pensioners to sight who had laboured under the granular stage of ophthalmia, and had, as he alleges, been discharged from the army *as incurable*. This achievement very luckily came to the knowledge of the general officer commanding the district, and he stated the circumstance to the proper authorities, who, in 1811, anxiously so-

licited Sir William Adams's assistance, and admitted him to various trials in the military hospitals. To this very natural course of events we have nothing to object; it is altogether in keeping with the usual routine on such occasions, as may be seen more at large in the writings of those disinterested individuals who daily favour the world with details of the various lucky coincidences, by which their transcendent merits have, for the benefit of mankind, been brought to light.

We proceed to matters supported on less questionable authority. Early in 1812, Sir William, by the orders of the Adjutant-General, had an interview with the Army Medical Board of that day; on which occasion, as he informs us, "he did not deem it necessary to make any specific stipulations, but proceeded freely and fully to communicate to them his opinions and practice for the radical cure of the Egyptian ophthalmia." We must here protest "in limine" against the term "Egyptian ophthalmia;" and, whenever our pen may slide involuntarily into the appellation, we beg to be understood as meaning purulent ophthalmia in its most violent form. The Army Medical Board, it appears, did not receive Sir William with that grateful enthusiasm which the originality and importance of his propositions in his opinion so warmly merited; and, towards the close of the year, they received from the Adjutant-General what is technically called a "rowing," which the Pamphleteer prints verbatim with very laudable accuracy, making only the trifling omission of the whole of the explanatory circumstances which the Board offered in their defence. In 1813, Sir William, convinced of the blindness and prejudice of military medical men, was determined that the business should be taken out of the hands of such partial judges; and accordingly, he applied for a Committee of civil practitioners. The Report of the Committee was by his account so favourable, that it was resolved by the Commander in Chief, Secretary of State, and Secretary at War, to make a simultaneous effort *entirely to eradicate the Egyptian ophthalmia from the army, and from the kingdom*, by the adoption of the specific plans which our oculist had submitted for their approval—"this highly contagious malady having been widely disseminated among all classes of society, through the medium of the dismissed soldiery." This most promising project was, if we are to believe the Pamphleteer, entirely frustrated by the present Director-General of the Medical Department of the Army, Sir James M'Grigor, who, in a letter written very shortly after his appointment, observed, "that of the contagious disease, there then existed but a few cases in the neighbourhood of Plymouth, and that he trusted the disorder

would very soon be eradicated from the army." Not content with this, he went so far as to assert, "that he was convinced he could select from the service medical officers perfectly equal to the cure of the diseases of the eye, where a cure could be effected;" and he concluded by stating, "that he was of opinion the establishment proposed by Sir William Adams was by no means required, as its objects could be obtained without incurring any further expense." His Royal Highness the Commander-in-Chief, to whom this letter was addressed, had, it appears, some confidence in the integrity, zeal, and experience of the man who had attended the Indian Army across the Desert to Egypt;—who had studied ophthalmia in its cradle;—who, at the head of the Hospital Staff of the Duke of Wellington, had established on its present basis the professional character of the medical officers of the British Army;—and who owed his high appointment solely to his own merit. He therefore contented himself with transmitting the letter of that officer to the Right Honourable the Secretary at War, with the very significant observation, "that it appeared quite conclusive as to the expediency of creating any new establishment for the ophthalmic disease." The Right Honourable Secretary, however, held a different opinion; and, in 1817, he built and established an Hospital, and placed it under the charge of Sir William Adams. For his labours at this establishment, and for his exertions on behalf of the suffering out-pensioners of the army, Sir William founds his claims to reward.

Let not our readers suppose that this is a subject of individual interest alone: We state it as our conscientious conviction, that the dignity and honour of the medical profession at large is implicated; and that, if the extraordinary countenance now given to appeals to Parliament be held up as a precedent, effrontery and intrigue may engross the honours due to unassuming merit; while persons who, both by education and habit, are of all others least qualified for the task, may, at some future period, be selected to distribute the rewards of professional excellence. Indeed we should suppose that the very individuals who, under such an arrangement, might find themselves placed in the situation of judges, would, if any feeling of consistency existed in their breasts, be the first to acknowledge their own incompetency to form a just or accurate opinion on medical subjects; for although they may very laudably promote, as individuals, the interest of a *protégé*, they run the risk of disgracing themselves when they proceed to vote away the money of the public. Should such a person be, by accident, named to such an office, we have no hesitation in asserting, that he would owe it to his character to reject the appointment; and, in our

mind, the strongest argument "*a priori*" against the claims of an appellant, would be his submitting them to an arbitrator so circumstanced.

But to return to the case immediately before us, we are inclined to give full credit to Sir William Adams for having cured some pensioners at Exeter in 1809; but that they were all deemed *absolutely incurable* by the Army Surgeons, we are by no means disposed to admit, and for this simple reason. About the period in question, we were in the very heat and bustle of a sanguinary contest; our armies were with difficulty supported abroad; and at home we were actually struggling for political existence; the demands for soldiers to supply the continued expenditure of the service were large and insatiable; and, in discharging *inefficient* men, to make room for fresh recruits, the question was not, whether the former were curable of their several diseases, or to what extent they were susceptible of relief by further treatment?—but it was, whether they might, by *any* treatment, be rendered speedily fit for the purposes of *actual warfare?* The finances of the country were barely sufficient to support the effective bayonets, without also keeping upon full pay, with all its contingent expenses, invalids who were never likely to add to the strength of the army in the field, whatever they might do upon paper. This obvious fact, we think, is quite conclusive upon the point.

It was on the subject of the men cured at Exeter that Sir William Adams and his friend and master Mr Saunders first quarrelled; the memorable letters that passed between them are still extant "in excellent Italian;" but we can only refer to them.† Suffice it to say, that Sir William wished to identify himself with the discoveries of his master; to offer their joint services to the Government; and to divide the profits. He also ventured to recommend, that his intended work on Diseases of the Eye should not be published without previous communication with Government, with a view to reward; the suggestion, however, was instantly met in a spirit of indignation to which the equanimity of Mr Saunders's mind was seldom subjected; —he wholly rejected the idea. Mr Saunders died in February 1810; his posthumous work was published by Dr Farre in December 1811; and, early in January 1812, a copy of it was officially transmitted to the Army Medical Board of that day. In the *following March*, Sir William Adams had, by authority, an interview with the Board; and, on that occasion, he informs

† Special Report of the General Committee of the London Infirmary for Diseases of the Eye. London, 1815.

us, "that he freely and fully communicated his opinions and practice for the radical cure of the Egyptian Ophthalmia." And what was the mighty secret?—Turn we to the note at page 94 of Mr Saunders's work, and there we find it!—mystified, however, by Sir William, inasmuch as he proposed to remove the granulations by the *knife*, while his teacher effected the same purpose by the scissars!!

The Army Medical Board, who had all sorts of proposals from aurists, oculists, rupture-curers, and venders of quack-medicines daily submitted to them, made a Report, which, under all the circumstances, we contend, was infinitely more favourable than Sir William's plan deserved. They stated "that it was plausible, so far as he had explained himself." Far be it from us to detract from the merits of Mr Saunders. To that eminent and lamented individual, British Ophthalmic Surgery is under the greatest obligations; and his memory must ever be cherished in grateful recollection by all who can appreciate the union of skill and ability so happily blended in him. But it should be remembered that the existence of granular lids in affections of the eye was known from the earliest periods of physic of which we possess any record; and their removal by excision and escharotics recommended by the oldest authors of the Greek, the Roman, and the Arabian schools.‡ The leading error with regard to these granulations has been, the supposition that they were *solely* the product of Egyptian ophthalmia; they, on the contrary, result from all protracted inflammatory affections of the conjunctiva, from whatever cause they may originally have proceeded, whether congenite, scrophulous, gonorrhœal, or catarrhal, and under whatever form they may have extended themselves. Their incipient or villous stage is constantly to be observed in cases of fistula lachrymalis; and their complete formation is by no means a rare occurrence from gun-shot wounds, and other injuries in the neighbourhood of the eye. Where insulated or pendulous, they may often be advantageously removed by a cutting instrument; but in an infinite majority of cases, they are best treated by the mildest and simplest means, without the use of either knife, scissars, or lancet. To Mr Saunders, beyond any doubt, is due the merit of having *first, among modern surgeons, publicly taught the treatment by ex-*

‡ We reminded our readers, in our last Number, of Sir William Read; and we observe that the Committee of the House of Commons have taken especial notice of him, when discussing Sir William Adams's claims to originality. The merits of the Knight of Queen Anne's days are noticed by the Spectator (No. 547.); but we believe his work has never before been so highly honoured.

cision, which he did so far back as 1809. When he first adapted that practice to the purulent form of ophthalmia, is unknown; but assuredly, if his valuable life had been spared, he would have greatly modified it; for, like other professional proposals, whether original or revived, it has been undergoing progressive improvements, and it has now fallen greatly into disuse among surgeons in general. Strange to say, it has been virtually abandoned by Sir William Adams himself, who has now reverted to the use of sulphat of copper, the employment of which, as an escharotic, forms the basis of his practice, *and is enforced in the standing orders of that very hospital, which was erected for the express purpose of promulgating his new and successful practice by the knife to the medical officers of the army!!!* Thus then, after having held up these gentlemen as ignorant and inefficient, and having pretended to open a school for their instruction, he has adopted a severe and comparatively inefficacious modification of their established practice; and, with characteristic modesty, he claims a reward, in 1821, for a mode of treatment which they have uniformly been in the habit of employing since 1809. While holding out one mode of practice as a bait for public applause, he pursues another in the establishment erected for him by the public money—an establishment where, by the by, while he has professed to *teach*, he has obviously practised to *learn*. On a par with this is his continuing to perform extraction of the cataract, although he had written a goodly octavo to decry that operation.

Although the author of the pamphlet alludes only to *one* experiment (p. 1.), yet it appears that no less than *five* were conceded to him, under circumstances infinitely more favourable than have ever been granted to established military surgeons: and although we are most willing to make every allowance for the "esprit de corps" which may have dictated the Reports of both parties, we must confess that the pamphlet which is named at the head of this article (No. 3.), carries to our minds a conviction that Sir William Adams failed most lamentably in his last and greatest trial. We cannot afford room to enter further into this part of the subject; but shall advert to the grand "simultaneous effort" of the oculist, and the Secretary of State, and the Right Honourable the Secretary at War, entirely to banish Egyptian ophthalmia from the kingdom and army! It seems to have consisted of two plans, equally feasible and meritorious. Whenever the incipient disease was detected, the patient was to be placed upon a course of full vomiting for several hours, by which means the activity of the blood-vessels would be effectually lowered, without removing from them the

vital fluid—a circumstance of great national importance, considering the vast demand for that article that the unsettled state of Europe was likely to occasion; and in cases where the disease had taken deep root, and those "vile" granulations were discoverable, the pensioners were to be called up, and the conjunctiva was to be "shaved home to the tarsus," or cauterized with sulphat of copper, as the case might require; by which means the granulations were not only to be removed, but their future growth was to be effectually prevented. As the hospital erected in the Regent's Park for the promulgation of the "new and successful methods," could not conveniently hold all the pensioners, they were to be called up by degrees, after the manner proposed by Captain Bobadil for destroying the enemy's army—"twenty more, cure them—twenty more, cure them too—till at last the whole fifty thousand should be fairly cured by computation." To make this plan complete, we should beg to offer one suggestion. It is acknowledged upon all sides, that prevention is better than cure; and it is ascertained, that the gonorrhœal ophthalmia of new born infants is capable of propagating a most violent and wide-spreading disease. Now, might not the pensioners' wives be had up, and might not, by a dexterous removal of mucous membrane, all chance of their bringing forth diseased children be effectually prevented? This, however, we admit, is but a speculation; we shall, therefore, not much insist upon it, but turn to facts supported by experience.

It so happens, that some very curious and important information was elicited by the professional gentlemen who were despatched at the expense of Government on this most hopeful errand. Among the families of nearly three thousand pensioners, dispersed over England, Ireland, and Scotland, they did not find *a single instance* in which ophthalmia had been communicated:—nay, there was only one solitary case discovered in which any sequelæ of disease of the eye, under a suspicious form, were found to exist; and that was in the instance of a wife who had many years before caught the complaint, at the same time with her husband, at an infected barrack in Kent. Purulent ophthalmia is indeed a disease of barracks. Whenever men have been crowded together in close, ill-ventilated rooms, and their eyes have been exposed to the application of morbid discharges from mucous surfaces, especially by the medium of towels or bedding, there the affection has been propagated with surprising rapidity. But so little has this dissemination depended upon *one* specific discharge alone, that whether it has proceeded from ordinary catarrhal ophthalmia, from the factitious disease generated by depraved soldiers, from gonorrhœal mat-

ter, or from any other source, ophthalmia in a severe purulent form has been produced, many eyes have been destroyed, and nothing has prevented still more extended ravages, but a system of separation and dispersion.

Our limits do not allow us to enumerate the various sources, endemic, epidemic, sporadic, factitious, and even epizootic, from which ophthalmia has sprung, and hereafter may be disseminated among bodies of men living in the unrestrained intercourse of military life: they are such as to set at nought all schemes for extermination. We may, however, remind our readers of some instances which have occurred prior to the Egyptian expedition, and which only required concentration of subject to have spread with equal virulence and rapidity. In Ireland, a severe form of purulent ophthalmia is stated by Mr Power to have existed from time immemorial among the peasantry of certain districts. In England, an epidemic ophthalmia prevailed in Berkshire in 1778, and spread to the soldiers; at which period it was known under the name of the "ocular disease." In 1797, a very severe ophthalmia appeared in one of the ships of the squadron off Brest.† In 1799, catarrhal ophthalmia prevailed in Germany, which, according to Assalini, was precisely the same as he afterwards witnessed in Egypt; but the disease has never been so violent in England as since the enormous increase of our fleets and armies, especially since the return of the troops from Egypt; and it is a very extraordinary fact, that it was not till a lapse of six years after that event, that it made its appearance, and then it broke out, not in a regiment that had served in that country, but in a corps entirely composed of Irish recruits. We need scarcely tell our readers, that the French surgeons deny that this disease is contagious; we, however, are convinced that it is so, by the medium of the *purulent matter* applied to the parts, although some individuals among us, from experiments tried on themselves, are of a different opinion: But we believe no pathologist ever dreamt that the contagious quality existed in the *granulations*, if we except Sir William Adams. If his opinion was really so, it must be confessed that he adopted a most singular system of carrying into effect his grand "simultaneous effort;" for, by his Report it appears, that instead of collecting the pensioners with *granular lids*, who, according to him, "were propagating this dreadful scourge

† During the proceedings of the Committee, an instance was mentioned in the House of Lords, by the Marquis of Lansdowne, in which epidemic ophthalmia had recently broken out on board a French slave ship, where it had deprived many of these unfortunate people of vision, and had spread so extensively among the crew, that only one of them was left with sight to bring the ship into Guadaloupe.

throughout the kingdom," he let them propagate it at their leisure; and selected numerous cases for operations, which he doubtless performed dexterously, but which were of no conceivable importance to the army or the kingdom, except indeed he may be of opinion that closed pupil, cataract, and inverted lids, are contagious also.

Before examining the "Documents and Claims" of Sir William Adams, we shall briefly advert to two points upon which he particularly dwells. The *first* is the Report of a Special Board, which was assembled in the year 1810, to consider and determine upon the means of preventing and curing the ophthalmia in the army. This Board, it appears by Sir William's account, "never mentioned the third or granular stage, upon the removal of which entirely depends the radical cure of the malady, and the *prevention of contagion.*" We apprehend that no possible blame can attach to this Board for the omission here stated; because it is obvious that granulations have nothing to do with the propagation of the disease; * and it is not a little curious, that the only proof Sir William attempts to offer on the point, is a letter from a Lieutenant in the Navy.

The *second* subject upon which Sir William Adams lays considerable stress is, that in three or four months after the date of Sir James M'Grigor's letter to his Royal Highness the Duke of York, on the subject of the disease at Plymouth, ophthalmia appeared in the Army of Occupation in France, which he very judiciously endeavours to prove was entirely owing to the neglect of the Director-General. Now Sir William Adams, among many false deductions, has committed two leading mistakes in point of fact in this business. In the *first* place, the disease proceeded from causes entirely beyond human control, and first appeared in a catarrhal, and not in a purulent form; and, in the *second* place, it was not *prevalent* in the army, for it was confined to four corps only. *Lastly*, this epidemic afforded most triumphant proof of the superiority of ophthalmia surgery in the British army; for, by returns laid before the House of Commons it appears, that, of 2422 cases, 56 only were invalided, of whom no more than 10 men sustained the total loss of vision; and it is highly probable that, of those who were invalided and pensioned, several would not have been lost to the service under a different state of public affairs.

* Persons with granular lids are certainly more susceptible of irritation than others; but it by no means follows, that every attack of inflammation in them is necessarily purulent and contagious. Nor are granulations a *necessary* consequence of inflammation. On the contrary, if proper means are used at first, they do not form; and they often disappear spontaneously, after they have existed for a considerable time.

We now come to the Second Section of the "Facts and Documents," with which we shall not long detain our readers. Under the head of expense caused by ophthalmia, he estimates the sum paid at 129,000*l.* We shall not stop to inquire how much of this is paid for wounds and length of service, and how much *solely* for ophthalmia; but shall at once turn to what at first sight might be supposed an authentic document. (Document 2d, p. 23). The history of this return is curious. It appears that, during a tour of inspection in Ireland, one of the medical assistants met with 1800 men in whose certificates of discharge various ocular diseases were inserted. † Of the men who really had diseases of the eye unfitting them for military duties, he considered 300 as incurable, and between 4 and 500 as susceptible of cure or relief;—of course, upwards of 1000 pensioners remained unclassed. A man possessed of some little knowledge of military matters might have hesitated about the actual state of these persons; but Sir William Adams takes a very summary method of disposing of them; and they are by a "coup de plume" represented to have "*recovered their sight since they were discharged and pensioned as incurable!!*"—He might with the same ease, and as much justice, have represented them as members of the Bench of Bishops.

His next financial Document purports to be a return of men whose pensions were saved in consequence of their treatment by him. (Document 5th, p. 28.) But what will our readers say when we inform them, that one of these men whose pension is stated to have been saved, died in the hospital?—some were militiamen, who had no title whatever to pensions; and others were unfortunate persons, who, by military crimes, had forfeited all their claims!!—and yet the writer of these self-refuting Documents presumes to obtrude them on the British Parliament as authentic! We were prepared for much manœuvre on the subject of the ophthalmic inquiry; but we confess this exceeds our preconception, and almost our powers of comprehension.

We shall now turn to the pecuniary claims of Sir William Adams, (at p. 17.) It seems that he, or his secretary, was very much puzzled for a parliamentary precedent; they had, to be sure, the case of Mrs Stevens, of eggshell memory, which for *value and originality* seems to be pretty much in point: But this would not do; and therefore, after much research, they modestly fixed upon the case of Dr Jenner!!! Do not let our readers suppose we are *hoaxing* them; the fact is precisely as we state

† In discharging men, army surgeons and commanding officers were formerly in the habit of inserting all the diseases that the soldier had suffered from during any period of his military service, which might increase his claim to pension, if otherwise a deserving object.

it; and the demand is even less extravagant than was expected. The members of the Committee, however, were not convinced by the very clear and connected chain of argument advanced on this point; they equally scouted the oculist's claims to originality and resemblance to Dr Jenner; but, in consideration of his loss of time for four years, and of his labours at the hospital (which had not before been paid for), they, on a division, recommended to Parliament to grant him a sum of 4000*l.* The consideration of this point is deferred till a future session; but it is recommended that the hospital for the "new and successful methods" should be abolished. We were in hopes that the proceedings, as well as the Report, would have been printed for the use of the public; but that still remains a disputed point, some members alleging that it would increase expense, while others suppose that such a light would be thrown on the subject as would effectually prevent any further demands upon the public purse; and that 1000*l.* paid to the printer, would eventually save treble the sum to the people. *

Sir William Adams ventures to assert (p. 19.), that the periodical medical press of this country is under undue control, and has been systematically hostile to him. The assertion, we believe, is most unfounded. For ourselves, we have on various occasions criticised the writings of this gentleman freely, and we have conscientiously opposed what we have always considered as a great delusion, viz. his claims to originality, and to superiority over all his contemporaries. The disclosures recently made, will do more to confirm the justice of our opinion than any thing we can at present offer. We shall not presume to decide whether the sum recommended is more than an adequate compensation for Sir William Adams's time and labour; but this we shall assert, without fear of contradiction—that no pecuniary reward could remunerate a man of feeling for the *exposé* which has been presented to the profession. When reviewers cease from troubling, and pamphleteering oculists are at rest—when the courtly taunt, the blustering assertion, and the indignant reply of contending claimants are alike forgotten—these proceedings will remain a salutary lesson to those who, filching from the fair fame of others, may hereafter submit their illusory claims to the tribunal of the public; while they may tend in some degree to moderate the self-complacency of non-professional men, who conceive themselves intuitively competent to decide on grave professional subjects.

* Report in the "Times," of the 11th July.

III.

1. *An Account of the Rise, Progress, and Decline of the Fever lately Epidemic in Ireland; together with Communications from Physicians in the Provinces, and various Official Documents.* By F. Barker, M. D. &c. &c., and by J. Cheyne, M. D. &c. &c. 2 vols. 8vo. Dublin, 1821. pp. 500, and 387.
2. *An Historical Sketch of the Causes, Progress, Extent, and Mortality of the Contagious Fever Epidemic in Ireland, during the Years* 1817, 1818, *and* 1819; *with numerous Tables, Official Documents, and Private Communications, illustrative of its General History, and of the System of Management adopted for its Suppression.* By William Harty, M. B. &c. 8vo. Dublin, 1820. pp. 220 & 282.
3. *Medical Report of the Hardwicke Fever Hospital, for the Year ending on the* 31*st March* 1818; *including a Brief Account of an Epidemic Fever in Dublin. (From Vol. II. of the Dublin Hospital Reports.)* By John Cheyne, M.D. 8vo. Dublin, 1818. pp. 144.
4. *Medical Report of the Fever Hospital and House of Recovery, Cork Street, for the Year* 1816, *with Observations on the succeeding Epidemic, and the Treatment adopted for its Cure; illustrated by Cases lately admitted into that Hospital: To which are added, Observations on Apoplexia Cephalitica, also illustrated by Cases.* By William Stoker, M. D. &c. &c. 8vo. Dublin, 1818. pp. 71 & 15.
5. *Medical Report of the Fever Hospital and House of Recovery, Cork Street, Dublin, for the Year ending 4th January* 1819. By Richard Grattan, M. D. 8vo. Dublin, 1819. pp. 123.
6. *Medical Report of the Fever Department in Steeven's Hospital, containing a Brief Account of the late Epidemic in Dublin, from September* 1817 *to August* 1819. By John Crampton, M. D. &c. 8vo. Dublin, 1819. pp. 63.
7. *Observations on the Condition of the Middle and Lower Classes in the North of Ireland, as it tends to promote the*

Diffusion of Contagious Fever; with the History and Treatment of the late Epidemic Disorder, as it prevailed in an extensive District of that Country, and a Detail of the Measures adopted to arrest its Progress. By FRANCIS ROGAN, M. D. 8vo. London, 1819. pp. 159.

8. *Diss. Med. Inaug. De quibusdam Febris Epidemicæ sequelis quæ anno* 1818 *Eblanæ grassata est.* Auct. THOMA CUMING. 8vo. Edin. 1819. pp. 72.

9. *Diss. Med. Inaug. De Febre Epidemica, quæ annis* 1817–1818 *apud Monaghan ejusque vicinitatem, maxime sueviebat.* Auct. GULIELMO TEMPLE. 8vo. Edin. 1819. pp. 17.

10. *Diss. Med. Inaug. De quibusdam Febris Epidemicæ varietatibus quæ annis* 1817–18–19 *Eblanæ grassata est.* Auct. JOANNE CRAWFORD. 8vo. Edin. 1820. pp. 50.

11. *A History of the Epidemic Fever which prevailed in Bristol during the Years* 1817, 1818, *and* 1819, *founded on Reports of St Peter's Hospital and the Bristol Infirmary.* By J. C. PRICHARD, M. D. 8vo. London, 1820. pp. 112.

12. *A History of the Epidemic Fever which prevailed in Bridlington and the Neighbourhood, in the Years* 1818 *and* 1819. By HUMPHRY SANDWITH, Surgeon, Bridlington: *Also, Observations in Medicine and Surgery.* By THOMAS SANDWITH, Surgeon, Beverley. 8vo. London, 1821. pp. 172 & 144.

13. *A Practical Treatise on the Efficacy of Blood-letting in the Epidemic Fever of Edinburgh, illustrated by numerous Cases and Tables, extracted from the Journals of the Queensberry House Fever Hospital.* By BENJAMIN WELSH, M. D. 8vo. Edinburgh, 1819. pp. 208 & 126.

14. *Dissertatio Medica Inauguralis de Febre continua quæ nuper in hac urbe Epidemica fuit ex exemplis apud Nosocomium Regium tractatis, deducta.* Auctore ROBERTO CHRISTISON. 8vo. Edin. 1819. pp. 60.

15. *Diss. Med. In. De Febre Contagiosa Crifana annis* 1817 *et* 1818 *sueviente.* Auct. GEORGIO TAYLOR. 8vo. Edin. 1819. pp. 36.

16. *Diss. Med. In. de Febre continua ut sese habuit in Nos. Reg. Edin. cubiculis clinicis in aestate anni* 1820, *curante J. Home, M. D.* Auct. MERIONE M. MORIARTY. 8vo. Edin. 1821. pp.

17. *Diss. Med. Inaug. De Causis Febris Epidemicæ nunc Edinburgi grassantis.* Auctore EDUARDO TURNER. 8vo. Edin. 1819. pp. 45.

18. *Practical Observations on the Treatment, Pathology, and Prevention of Typhous Fever.* By EDWARD PERCIVAL, M. B. &c. &c. 8vo. London, 1819. pp. 156.

19. *A Succinct Account of the Contagious Fever of this Country, exemplified in the Epidemic now prevailing in London, with the appropriate Method of Treatment as practised in the House of Recovery: To which are added, Observations on the Nature and Properties of Contagion, tending to correct the Popular Notions on this Subject, and pointing out the Means of Prevention.* By THOMAS BATEMAN, M. D., &c. &c. 8vo. London, 1818. pp. 177.

20. *Observations on the Prevention and Treatment of the Epidemic Fever at present prevailing in the Metropolis, and most parts of the United Kingdom: To which are added, Remarks on some of the Opinions of Dr Bateman and others on the same Subject.* By HENRY CLUTTERBUCK, M. D. 8vo. London, 1819. pp. 299.

21. *A Practical Illustration of Typhus Fever, of the Common Continued Fever, and of Inflammatory Diseases.* By JOHN ARMSTRONG, M. D., &c. Third Edition. 8vo. London, 1819. pp. 566.

22. *Remarks on the Pathology and Treatment of Typhous Fever.* By ALBERT HENRY CALLANAN, M. D. 8vo. Cork, 1817. pp. 102.

23. *A Treatise which obtained the Prize on this Question, "What are the Symptoms which indicate or contraindicate Blood-letting in Fever, whether Intermittent or Continued, designated under the Terms Putrid or Adynamic, Malignant or Ataxic?" Proposed by the late Academical Society of Paris for the Meeting of* 1812. By J. VAN ROTTERDAM, Professor of Therapeutics and Materia Medica in Ghent. Translated from the French by J. TAYLOR, M. D. 8vo. London, 1818. pp. 265.

24. *Prospectus or Introduction to a Practical Dissertation on the Use and Abuse of Blood-letting in Fever and Inflammations,*

and in all Diseases connected with them: Together with a practical Inquiry into the Nature and Origin of Pulmonic Complaints; as also those Derangements of the Liver and other Internal Organs, usually but erroneously termed Nervous, Bilious, &c. By ADAM DODS, M.D. 8vo. Worcester, 1820. pp. 25.

FROM the prefixed catalogue, which is probably not complete, it will appear, that our successors will have no cause to complain of us, as we do of our predecessors, that an important epidemic has been left without a sufficient record. But, from the very abundance of excellent materials, we find it impossible to do justice to each of the writers to whom the profession is obliged, without trespassing upon the patience of our readers, in regard to a subject which, to many of them, has already seemed to occupy too much of our attention.

The works before us may be divided into those which describe the fever as it occurred in a particular place, under the observation of the author; those which attempt to collect a general history of its progress and varieties, from the comparison of numerous documents; those which treat of the subject of fever in general; and those which treat of the effects of a particular remedy.

In the British empire, the disease began and prevailed most extensively in the sister island; and it is in that country that it has met with the most indefatigable historians. In collecting materials for their national work, if we may so call it, Drs Barker and Cheyne seem to have had the support of Government; and the manner in which they have performed their task shows how well they deserved it. We may admit that, if they had taken more time, they might have accumulated more facts; and that they might have condensed those facts which they procured into a smaller space, and might often have avoided repetition. But we well know the difficulty of condensing and arranging materials so multifarious and heterogeneous, so as to do justice both to the writers who have taken pains to communicate them, and to the public for whom they are intended. The delay which a more perfect production would have necessarily occasioned, would have been attended with greater loss than the evils of repetition, which forms the only just ground of complaint; and, after all, as it is desirable that each correspondent should speak for himself, it was perhaps not to be avoided.

The work of Drs Barker and Cheyne consists of two respectable octavo volumes, which are divided into four sections. The

First contains a historical sketch of the fevers which have been epidemic in Ireland during the last and present centuries. The Second contains communications of considerable length from the four provinces relative to the late epidemic. The Third Section contains a medical account of the fever as it appeared in each of the provinces. The Fourth Section, which occupies the whole of the second volume, contains the reprint of Reports and various Official Papers, which the Editors have judged deserving of being handed down to posterity.

From this view of the contents of these volumes, it will appear that the Editors are responsible chiefly for their judgment in devising the plan of the work, and in selecting the materials, and for their skill in composing the first and third sections. Their first duty was evidently to collect and reprint every official document relating to the history of the rise and progress of the fever, and the means employed to counteract it, with an account of the effect of these means. In a work written under the immediate sanction of Government, we are well aware that nothing having a tendency to censure its measures can be expected to be inserted; hence it probably is, that we find Drs Barker and Cheyne confining themselves to such public documents as emanated from Government itself; and hence a considerable blank is left in the history of the rise and progress of the disease, which is however supplied by Dr Harty's publication. The principal documents appended to the official publication are, the Reports from the Select Committees of the House of Commons on the Fever in Ireland, presented on the 9th May 1818 and 17th May 1819, with the Reports of the temporary medical inspectors of the provinces annexed to the latter. We have also the Act of Parliament to establish Fever Hospitals, 30th May 1818; the papers relative to the Formation and Dissolution of the Board of Health; the Circulars addressed, 3d October 1818, to the Governors of Hospitals in Dublin, and Dispensaries in the vicinity, with the answers; the Act of Parliament for preventing contagious diseases in Ireland, and the establishment of a General Board of Health. There are also some other papers relative to the establishment of Soup Kitchens, and the providing for the relief of the indigent sick at Waterford and Ballytore. At first, we were disposed to think that this Appendix might have been shortened, by the omission of the long Appendixes to the Report of the Select Committee of the House of Commons of May 1819; especially as a fuller account of the fever, as it appeared in each of the provinces, is inserted in the first volume. But, upon more mature consideration, we rather regret the omission of the documents appended to the Parliamentary Report of 1818.

For the extracts printed from the longer communications from physicians in the provinces, the Editors are responsible for their judgment in selection. From Munster, those admitted are from Drs Lyon and King of Tralee, Rev. S. Grady of Carrick-on-Suir, Dr Bracken of Waterford, and Drs Halloran and Milner Barry of Cork; Connaught, from Sir Thomas Moriarty of Roscommon, Mr Brady of Carrick-on-Shannon, Dr Verdon of Boyle, Dr Fawpett of Ballina, and Dr Macartney of Morimore; Ulster, from Dr Ryan of Armagh, Dr Black of Newry, Dr Young of Ballymona, and Dr Murray of Cavan; and Leinster, from Dr Burk of Dundrum, Dr Davis of Ballytore, Dr De Renzy of Carnew, and Dr E. G. Ryan of Kilkenny.

To have printed at length, or even in the form of extracts, all the answers received to their circular queries, would have extended the work to an enormous length; and, therefore, the Editors have condensed, in the third section, all the information received from their other correspondents, keeping those of each province separate. This part of their work is executed with great ability, and is highly valuable in many points of view. It presents us with "a cloud of witnesses" upon every point.

The first section is that of the work of which the Editors are more especially the authors. It is divided into two parts; the first allotted to the history of preceding epidemics in Ireland; and the second to that of 1817, 1818, and 1819; and, in regard to this portion of their work, we can only say that, in our opinion, the Editors have executed, in a manner most creditable to themselves and useful to their country, all that they intended to do.

"Resolving, as much as in their power, to exclude all speculative matter, the Editors have confined themselves to a statement of facts and of deductions which, they trust, no attentive and unprejudiced observer, enjoying advantages similar to those which they possessed, can call in question or dispute, and to an enumeration of such plans only as were the basis of measures adopted either by Government, or of communities of the people; their sole object being to present a plain record of all the more remarkable circumstances connected with the origin, diffusion, and decline of the Epidemic Fever in Ireland."

The parallel work of Dr Harty is also extremely valuable; and, when we consider that it is the production of an individual, with the voluntary assistance of his medical friends, we have no hesitation in saying that it evinces a wonderful degree of energy and ability in its author. At the same time, it must be admitted, that an independent writer, if we may use the expression, enjoys some advantages over those who, assisted by official countenance, are also shackled by official restraints; and

to this we would in part, though not altogether, ascribe the animated style which pervades Dr Harty's volume. While Drs Barker and Cheyne suppress as much as possible their own opinions, and endeavour to act the part of impartial historians, Dr Harty everywhere speaks his mind boldly and decidedly, without "mincing the matter." At this distance, we are of course ignorant of the private history of many things alluded to by Dr Harty; but it is evident that he writes under some feeling of disappointment, and, perhaps, not without cause. With the proceedings of Government in regard to the fever, especially under the Secretaryship of Mr Peel, he is particularly dissatisfied; and his whole work breathes the true spirit of an Irish Patriot, keen in his country's cause, and alive to its misfortunes. In short, Dr Harty's may be considered as the opposition history of the late epidemic.

Although professedly having the same object in view, having adopted nearly the same general plans, Dr Harty has filled up the detail very differently from Drs Barker and Cheyne. Even in the choice of documents worthy of preservation, we are struck with the total want of coincidence of opinion; for although they consist, the one of 290, and the other of 390 pages, there are scarcely 20 common to both. Both works are therefore necessary to complete the history. In particular, we are indebted to Dr Harty for his communication of the proceedings of the Sub-Committee of Health to the Association for the Suppression of Street-begging in Ireland, which are altogether passed over in silence by Drs B. and C., and which we consider uncommonly valuable in point of fact, and highly interesting historically. We are also indebted to Dr Harty for the preservation of a document relating to the epidemic in our own country, from Aberdeen, with which we were previously unacquainted. He has also inserted communications on the state of the prisons in Ireland, and Dublin in particular, before and during the epidemic. The tables annexed to Dr Harty's work are particularly full and valuable. Three of them exhibit the monthly returns of admissions and deaths in hospitals; and four, entitled General Views of the Epidemic, exhibit the principal facts relative to the disease, an account of the probable population of each county and chief city, and of the probable origin, extent and mortality of the epidemic, the period of its commencement and greatest prevalence, its duration and state at the end of June 1819, with the authorities on which these statements are made. The prefixed map of Ireland, on which the dates of the commencement of the fever in the principal towns is marked, appears to us by far the best mode of exhibiting the progress of any epidemic disease. We would recommend to the Indian

Government to order such a map of the progress of the Cholera to be prepared by the Boards of the different Presidencies. Dr Harty also illustrates his documents with numerous notes.

The body of Dr Harty's work is argumentative as well as historical. It contains, besides a historical sketch of the commencement, progress and duration, of the epidemic in the four provinces of Ireland; an inquiry into its extent and mortality; a particular account of its progress and management in Dublin; a review of its state in Cork, and of the legislative means adopted for its suppression; a comparison of the fevers of 1741 and 1817; and a full review of the causes, medical and statistical, productive of epidemic fever in Ireland. This last portion is most interesting and highly valuable. We shall indulge in an extract or two.

"After this review of the leading causes of Epidemic Fever, and after the preceding exposition of the different views entertained by Dr Barker and by me on the subject, it must appear that we agree in considering famine and want of employment as the great predisposing causes of the late Epidemic, and that we view contagion, in conjunction with them, as the chief source of the diffusion of the disease: We differ, however, as to the competence of these predisposing causes to generate Fever independently of contagion; and also as to the agency and introduction of foreign contagion, which I consider very improbable, and so very unnecessary in accounting for the production of the disease, that I entertain not the smallest doubt, it would have occurred to as great an extent even though Ireland had been placed under the strictest quarantine, or though a single case of Fever had not existed in any other part of the globe. It is indeed my firm conviction, founded as well on my own observation as on the experience of others, that Contagious Fever is a disease which, though extinguished, and with it every "infected circle" or fomes destroyed, may readily be revived under that combination of circumstances already described, a *combination* which it is not in the power of man ever effectually to prevent." pp. 187, 188.

"It has been stated that contagion is the *great* immediate and general source of Typhus Fever, and that war—famine—want of employment—uncleanliness, personal and local—unventilated dwellings and crowding, are the causes which, if not competent to give rise to Contagious Fever, are, at least, those which can alone diffuse it epidemically in any country. It is not denied that Ireland has suffered, and does suffer more severely from this form of disease than any other country in Europe, though for more than a century it has been exempt from one of the most prolific sources of that disease, *war*. Why is it, then, that Ireland should thus be afflicted? Simply because she is and has been more exposed to the influence of the other predisposing and exciting causes; *causes* greatly aggravated, in the opinion of many, by her redundant population. Here again arises a series of other questions, which, if not difficult, are at least not very

agreeable in solution. Why is it that Ireland, blessed with the richest soil and the most temperate climate, abounding in natural wealth and in every convenience for tillage, manufactures and trade, and annually exporting an immense redundance of grain, of sheep, and of black cattle, should yet suffer more severely from *famine* than the countries she supplies, and that her inhabitants should experience such want and misery? Why is it that such *want of employment* should exist? Why such uncleanliness in the persons and habitations of her people? Will it be said that these are questions not within the province of the physician, but of the statesman or statistical inquirer? Unquestionably, it is the province of the statesman to obviate these evils; but it is not less the province of the physician to investigate them, if it constitute any part of his duty to trace the causes of disease through all their ramifications, leaving it to the statesman to devise the best means of removing them. To what useful purpose would it tend to trace the great frequency and epidemic prevalence of Contagious Fever in Ireland to the poverty, wretchedness, uncleanliness, and idleness of its inhabitants, unless we advance a step farther, and inquire whence originate that state and these habits?"—*Harty*, pp. 193, 194.

The Reports of Drs Cheyne, Stoker, Grattan and Crampton, the Inaugural Dissertations of Drs Cuming and Crawford, and the translation and enlargement of that of Dr Rogan, are all valuable additional documents to the History of the Fever as it appeared in the hospitals of Dublin, and in the provinces of Ireland.

In England, the epidemic seems to have been much less general or alarming, and has given rise to few publications. The only additional accounts of its progress and form in particular places, are those of Dr Prichard of Bristol, and of Mr Sandwith of Bridlington.

"The city of Bristol has been, during several years, remarkably free from contagious fever; but in the course of the last three years it has, in common with most towns and districts in the United Kingdoms, experienced its share of the visitations of this distemper. In the year 1817, there were sufficiently clear indications that it was on the increase; and, during the course of the two succeeding years, there were few or no parishes, and, I believe, few streets, where it has not frequently displayed itself.

"In the autumn of 1817, I endeavoured to excite the attention of the public to this subject. Facts had fallen under my observation during the course of that year, which clearly indicated, as I thought, that contagious fever was on the increase in Bristol and its vicinity, and which rendered it probable that the diffusion of this disease would become very general. These facts, and the apprehensions founded upon them, together with some hints respecting the propriety of adopting public measures of precaution, were expressed by me in a letter which appeared in Felix Farley's Journal. The reception

which this communication met with, was a general outcry against me for having created a groundless alarm. It is now well known to the public that the apprehension I entertained was fully verified. I need only to refer to a collection of letters published by an individual distinguished by her good sense and zeal for the public good, in a pamphlet recommending the establishment of a Fever Hospital."—*Prichard*, pp. 6, 7.

We have quoted this passage as an exemplification of that which we believe always takes place at the commencement of every epidemic fever. When its existence is first announced by some observing individual, he is generally treated as an alarmist, and his warning disregarded, because some are unwilling to think that others are more quicksighted than themselves, and all are unwilling to believe unpleasant tidings. The total number of cases affected seems to have been 2213. The second section contains a summary report of 359 cases of fever observed at St Peter's Hospital, nearly in the manner of the Edinburgh Clinical Reports. The fourth section contains observations on the symptoms, pathology and medical treatment; and the last an inquiry into the causes of epidemic fever. From the former, we see that the fever in Bristol did not differ materially from the fever in Edinburgh and other places, where it has been described; and that the same treatment produced similar effects. In the latter, Dr Prichard resorts to the "old fashioned, and almost exploded hypothesis of Sydenham; I mean the doctrine of a pestilential constitution of the air, or the notion that certain changes take place in the condition of the atmosphere, imperceptible to our senses, and eluding chemical tests, which predispose human bodies to febrile diseases, in such a way, that circumstances which, in ordinary times, would only give rise to a catarrh, an attack of rheumatism, or even occasion no indisposition at all, will now in many individuals become the exciting causes of continued fever.

"Visionary as this opinion seems to be, when it is first announced, there are several considerations which appear to me to bring it within the sphere of probability.

"1. The remarkable changes of form which fever displays during the succession of seasons, indicate that the state of the elements exerts a great influence in developing the character of this distemper. Its various types depend on the predisposition to particular forms of disease, resulting from the influence of the atmosphere in its different states. If it is allowed that these agents exert so much controul over the habitudes of the body as to dispose it to all these modifications in the character of fever, it seems not remote from probability that the general predisposition which renders this disorder epidemical at any particular time, may depend upon the influence of the same causes.

"2. The rapid diffusion of epidemic diseases through extensive regions, or their simultaneous appearance over considerable portions

of the earth's surface, seems to evince the operation of similar causes. What less extensive influence, for example, can be conjectured to have occasioned the appearance of the yellow fever in certain seasons, over so large a part of the United States and West Indies? To what other cause are we to ascribe the fatal diffusion of this disease during the present year, through the West India islands, the Continent of America, and the Spanish Peninsula? For explaining such phenomena as these, it is not sufficient to trace an infected ship to a particular port, or to smell out a bog on a piece of marshy ground near some particular town.

"This remark applies, indeed, to those diseases which by some writers have been termed epidemic, in contradistinction to contagious maladies. But we have reason to believe that this distinction has been represented by medical theorists as wider than it really is. If indeed the doctrine of the spontaneous origin of continued fever be allowed, I do not know on what plea this disease can be refused a place among the disorders strictly termed epidemical; for the attempt to discriminate these maladies universally by their type, can hardly be thought to have succeeded."—*Prichard*, pp. 98—101.

Mr Sandwith's publication is also very creditable; but it is rather a general treatise on continued fever, derived from personal observation, than a local report; although he has given a very full tabular view of 70 cases occuring from January 1818 to December 1819. He is a great advocate for the free use of the lancet.

The principal work on the Fever, as it appeared in Scotland, in addition to those formerly noticed, is the account of the manner of treating it in the Fever Hospital at Queensberry House by Dr Welsh, who acted as superintendent of that establishment under Drs Hamilton, Spens and Home. It contains a very valuable Appendix of Cases and Tables; and, in the body of the work, gives the topography and domestic arrangement of the hospital, meteorological tables for 1818, account of the epidemic, observations on its causes, review of the tables, sketch of the history of venesection in fever, observations on the efficacy of blood-letting in the present epidemic, and the general conclusion which he draws from the whole consideration of the subject. Dr Welsh is the greatest advocate for the use of the lancet in fever that has appeared in modern times; and we must candidly say that, in our opinion, he entertained too high opinions of its general utility, and carried it to excess both in frequency and quantity. His work is, however, particularly valuable, in showing how far it may be pushed without evident injury.

The Inaugural Dissertations inserted in our list, are all the result of the actual observation of their authors, and are therefore valuable additions to the history of the Epidemic.

The systematic works of Drs Bateman, Percival, Armstrong,

and Clutterbuck, are each of them possessed of a high degree of merit; and we confess ourselves unable to give, in a few words, any discriminative characters. Dr Clutterbuck, in a preceding work,† of which he has led us to expect the continuation, was the first to show the analogy between fever and inflammation, and thus to lead to the subsequent changes in public opinion and practice. Dr Clutterbuck, from the period of his first publication, has continued to pay unremitting attention to the subject, and the present work is the fruits of his more deliberate judgment and extended experience.

Drs Bateman and Percival are now both insensible to praise and censure. Of the latter, indeed, they received no portion during their lives; and the former may be now more freely bestowed upon them, that it cannot offend their delicacy. To say that we enjoyed their friendship, is to praise ourselves;—that we deeply lament their untimely loss, is to express the opinion of the whole profession.

Dr Bateman was peculiarly qualified for the task he undertook, by his great learning, and his having, for a long series of years, paid unremitting attention to the state of fever in the metropolis, while physician to the House of Recovery. Dr Percival's experience was perhaps still greater, as he was in extensive practice in Dublin from the commencement of the late epidemic, and had the immediate charge of the Hardwicke Fever Hospital. Of Dr Armstrong's first edition we formerly spoke at considerable length. In the one now before us, he has endeavoured to give a more extended view of the subject; but our limits will not permit us to transcribe even the list of the various topics introduced by this fluent writer.

It is gratifying to find, that, in all essential points, writers so highly qualified agree; thereby mutually confirming their individual accuracy of observation and judgment.

All of them agree in considering continued fever as a pathological state, if not identical with, at least approaching to inflammation. The distinction of Cullen into Synocha, Synochus, and Typhus, is abandoned by all. Every fever commences with excitement, and terminates in debility. Typhus is now used chiefly as the generic appellation of continued fever, and ought never to be employed as designating a peculiar character in the nature of the fever; but perhaps it would be better to abandon the use of the term altogether. Dr Percival's division of continued fever is into severe, mild, and very mild; Dr Bateman's

† Inquiry into the Seat and Nature of Fever, as deducible from the history of the Disease, the Effects of the Remedies, and the Appearances on Dissection. 8vo. London, 1807.

into simple and complicated; which, in terms, accords with that of Dr Clutterbuck, although they essentially differ:—Dr B. considering the fever to be complicated when the brain is evidently affected, and Dr C. considering the brain to be affected in every case of fever, and the complications to consist in simultaneous affections of other organs. We may concede to Dr C., that the brain is affected in every case of fever; but does not almost every other organ of the body suffer? Broussais has lately convinced almost all the younger part of the profession in France, that fever essentially consists in inflammation of the mucous membrane of the stomach and intestines, (*Gastro-entérite*); and in other schools, the liver has been thought chiefly to suffer. In our opinion, one difference between general fever and local inflammation is, that, as the appellations imply, one part only is primarily affected in the one, while the whole system is deranged in the other. We never saw a case of fever in which the functions of the brain were not somewhat disturbed; langnor, lassitude, inattention, indifference, depraved sensation and perceptions: but, on the other hand, we never saw a case of fever without loss of appetite, increase of thirst, deranged alimentary functions, interrupted assimilations. The action of the heart and arteries, and the functions of respiration, never remain altogether unaffected. When the whole system suffers in nearly an equal degree, the fever may be called simple, and these may be slight or severe in every degree; although, when very severe, one organ commonly suffers disproportionately, constituting what is called a complicated fever. When one organ is almost exclusively affected, the diagnosis between continued fever and local inflammation is often difficult; and we have seen cases so like phrenitis, pulmonitis, cynanche, carditis, gastritis, enteritis, peritonitis, metritis, cystitis, and even rheumatism, that we either remained uncertain as to the diagnosis, or derived it from concomitant circumstances, such as the existence of the epidemic, or probability of the operation of contagion, or preceding or supervening affections. Still, however, we agree so far with Dr C. in thinking, that in every case of general fever, the brain is seriously affected.

All our authors, both systematic and monographic, agree in considering contagion to be one of the causes of fever; although they admit that it often has a spontaneous origin, as it is called; and it seems to be also the general opinion, that spontaneous fever is capable of propagating itself by contagion, in circumstances favourable to its development and operation; that is, in crowded and ill-ventilated apartments, and among the poor depressed by misery, cold and want.

The treatment of fever is the last topic, upon which we shall

say a very few words. Conformably to the modern opinion of its nature, the antiphlogistic treatment is generally adopted; and it is interesting to see the gradual manner in which it has been revived. Even during the prevalence of the Brunonian doctrine, their system of excitation was limited to medicinal articles; for they never recommended external heat; and the patients fortunately would not make use of stimulating diet. Even their diffusible stimuli often had a good effect, though not in the way they conceived, but by exciting diaphoresis, and thus acting antiphlogistically and by depletion. Cullen's antimonials acted partly in the same way, and partly by inducing nausea and depression—an action the most decidedly antiphlogistic. But the first great improvement was the free exposure of the patient to cold air; a practice borrowed perhaps from the treatment of smallpox, dictated by the selfish prudence of the attendants, and vehemently desired by the patient. The next great step was the more decided reduction of morbidly increased temperature, by the direct application of cold water to the skin in various ways. It was to the eloquence of Dr Currie that the rapid diffusion of this salutary practice was chiefly owing. Dr Hamilton senior, of this place, next introduced the free use of purgatives, and proved, from his extensive experience, that debility was not the condition most to be dreaded in fever. The transition from cold air, cold water, and purgatives, to the detraction of blood, seems sufficiently natural, and in the older writers, there was sufficient experience to warrant the practice; but it must be confessed, that it was slowly and reluctantly adopted by the profession at large, even after its recommendation by Dr Mills of Dublin. One reason for this may have been, the cautious manner in which he employed it, in consequence of which its good effects were less marked, and a ready explanation of the results might be found, in supposing that it only did no harm. Afterwards, however, it was employed with the utmost freedom, and often to excess, so that its good and bad effects are no longer doubtful; and it is now very generally practised both locally and generally, but with caution and moderation. Detraction of blood is practised chiefly with two views; either to palliate urgent symptoms, and thus to augment the chance of recovery, or to cure, that is, cut short the disease.

"*Blood-letting*" (says Dr Clutterbuck) "to a moderate extent, when employed in this *incipient* stage of fever, will generally, as far as my observation goes, bring the disease to an almost immediate termination. I have frequently had recourse to it at this period, under the circumstances mentioned; and never without decided advantage.

"The *necessity*, however, of employing so Herculean a remedy, at such a period of the disease, and before any alarming symptom has appeared, will, perhaps, be questioned. Without doubt, it may often be safely dispensed with. But still, *in the particular circumstances alluded to above*, and considering how little we are able to foresee the future course of the disease, the practice appears to me to be both justifiable and proper; and we make ourselves responsible, I think, for all the bad consequences that may ensue from the neglect of it." pp. 96, 97.

"Blood-letting" (in like manner, asserts Dr Welsh) "is one of the few remedies which seem to cut short the fever. Of this fact, the most satisfactory proof has been afforded to me, both in the Royal Infirmary and Queensberry House. From a great number of others, I have selected ten cases, which stand foremost in the Appendix, as fair examples of this, at various periods of the disease: but instances of the fact might have been multiplied to an immense extent, almost to half the number of patients received into Queensberry House. By comparing, in our tables, the distance of the period of convalescence from the date of admission, with its length under other treatment, it will easily appear, that the number of cases cut short has not been overrated." pp. 168, 169.

Notwithstanding, however, our perfect confidence that these gentlemen firmly believed what they have asserted, yet we fear they have been misled by their speculative opinions, or by their partiality for a particular practice. We shall not go so far as to deny that fevers have sometimes been cut short, and perhaps oftener by bloodletting than by any other treatment; but, from very extensive practice we will venture to assert, that this has taken place in a very inconsiderable proportion of cases only. Having witnessed Dr Welsh's practice in Queensberry House, and having repeatedly imitated it in the most favourable circumstances, this difference of opinion as to a matter of observation may appear singular. But the difference is more apparent than real. When patients are bled freely in the first week of fever, the symptoms seem often to be suspended for about a week; but very frequently they return, though in a less severe form, in the third week of the disease. Such instances are considered by Dr Welsh as instances of fever cut short, followed by relapse. We think the fever was only suspended and protracted. From Dr Welsh's tables, the total relapses seem to be about one in six and a half; and, in the third quarter of the three, during which he has stated the results of his practice, they amounted to one in three and three-fourth cases.

Although decidedly partial to the general antiphlogistic treatment of fever, we think that the use of anodynes has of late been too much neglected; and that there is still much to learn concerning the combination of anodynes, stimuli, and tonics with the depleting practice.

PART III.

MEDICAL INTELLIGENCE.

On Wednesday, 1st August, the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine on the following Gentlemen (102 in number), after having gone through the appointed examinations, and publicly defended their Inaugural Dissertations:—

From Scotland.

Anderson Angus, De Apoplexia Idiopathica.
James Begbie, . — Delirio Trementi.
Benjamin L. Brown, — Asthmate Spasmodico.
John Campbell, . — Hydrothorace.
John Clark, . . — Febre Remittente.
David Corbet, . — Hypochondriasi.
Ed. Willson Duffin, — Hydrocephalo.
James Duncan, . — Filaria Medinensi, seu Gordio Medinensi.
Fr. M. Fairbairn, — Scarlatina.
John Grant, . . — Diabete.
John Halkerston, — Sanguinis missione.
David Johnston, . — Quibusdam lucis effectibus.
Wm. Johnston, . — Gonorrhœa Virulenta.
John Liddell, . — Febre Flava.
James Mackie, . — Cynanche tracheali.
Geo. Tod Moxey, — Puerperarum Hysteritide.
Robert Nimmo, . — Pneumonia.
Mungo Park, . — Ophthalmia.
James Rankine, . — Fœtu Humano.
William Seller, . — Causis quæ hactenus Medicinæ moram fecerunt, deque spe Melioris Medicinæ.
Andrew Simpson, — Remediorum ad ægros Accommodatione.
Adam Trotter, . — Rheumatismo.

From England.

Jos. S. Allanby, . — Hydrope Pectoris.
William Baker, . — Natura Principii Vitalis.
H. Blegborough, — Hæmoptysi.
Henry S. Boase, . — Contagio.
Ro. H. Brabant, — Valetudinis ex Animo Mutatione.
John Burne, . — Missione Sanguinis.
John Conolly, . . De Statu Mentis in Insania et Melancholia.
John Darwall, . — Morbis Artificum.
William Farrar, . — Causis Animalium Caloris Genetricibus.
Thomas Filkin, . — Diabete Mellito.
James Gibbon, . . — Partu Accelerando.
John Gibbs, . . . — Dysenteria.
John Goldwyer, . — Pathologia Pulmonum.
John Hannath, . — Cataracta.
John Hennen, . . — Ossium Necrosi.
John Hooper, . . — Hydrophobia.
Geo. Sam. Jenks, — Cœlo Tabescentibus benigno.
Samuel Jeyes, . . — Pneumonia.
S. Sbering Keddle, — Scrophula.
Charles Locock, . — Cordis Palpitatione.
Joseph Ralph, . . — Diarrhœa Infantum; ejusque varietatibus, et causis, et consiliis medendi ad singulas accommodatissimis.
Daniel Rositter, . — Tetano.
R. Wakefield Scott, — Bronchocele.
John Simpson, . — Spina Dorsi vitiosa.
William Stafford, — Natura et Usu Medicamentorum Purgantium.
Edgar Stanfield, . — Hydrocephalo Acuto.
C. Tho. Stephenson, — Contagione.
George Symes, . — Hydrocephalo.
J. Dou. Wynter, . — Fonte Caloris in Animalibus Respirantibus.

From Wales.

Owen Davies, . — Rubeola.
W. Powell Smith, — Variola.

From Ireland.

De Burgh Birch, — Strictura Stabili in Urethra.
Jervis Blackman, — Ophthalmia.
Anth. Eben. Blest, — Typho.
William C. Blest, — Amenorrhœa.
James Cooke, . . — Phthisi Pulmonali.

Francis Crumpe, De Amaurosi.
Charles Cupples, — Asthmate.
Daniel Denny, . — Hysteria.
Thomas Dillon. . — Concoctione Ciborum.
Edm. Al. Douglas, — Dyspepsia.
John Duignan, . — Neuralgia.
Thomas Garde, . — Pneumonia.
George Hopkins, — Phthisi Pulmonali.
Charles Ingham, — Pneumonia.
Edward Kelly, . — Enteritide.
James Kirwan, . — Dysenteria.
Rhynd Lawder, . — Febre Puerperali.
Thomas Lewis, . — Dysenteria, prout in Calidis Regionibus, occurrebat.
Francis Lyons, . — Febribus Intermittentibus.
W. J. MacCormick, — Spasmo Tetanico.
J. N. Moorhead, — Phthisi Pulmonali Tuberculosa.
Robert Moorhead, — Pneumonia.
Mer. M. Moriarty, — Febre Continua ut sese habuit in Nos. Reg. Edin. Cubiculis Clinicis in æstate Anni 1820, curante J. Home, M. D.
Patrick Murphy, . — Rheumatismo.
Caldw. Ormsby, . — Typho.
James Orr, . . . — Scrofula.
John Parke, . . . — Dysenteria.
Sam. Raymond, . — Peritonitide Puerperarum.
Rich. J. Robinson, — Retroversione Uteri.
George Roe, . . , — Respiratione.
Michael Ryan, . . — Genere Humano ejusque Varietatibus.
J. Barclay Shiel, De Affectionibus Animi deprimentibus.
Ra. Sm. Stewart, — Dysenteria.
William West, . . — Syphilide.
Rich. Woodward, — Absorptione Cuticulari.

From East Indies.

Paris Tho. Dick, — Insania.

From West Indies.

Jos. Von Bretton, — Lue Venerea.
Geo. W. Stedman, — Scarlatinæ sequelis.

From Jamaica.

Swaby Plummer, — Scarlatina Anginosa.
Edward Tucker, — Framboesia.

From Barbadoes.

H. G. Straghan, . — Tetano.

From Antigua.

Wal. S. Morson, — Scirrho Canalis Alimenti.

From Bermudas.

John Frith, . . . — Febre Flava.

From Dominica.

Lud. A. Giraud, — Hepatitide.

From America.

Elliot O'Donnell, — Febre Continua.

From Canada.

Ben. Berthelet, . . — Galvanismo.
J. B. Cur. Tristler, — Rabie.

From Nova Scotia.

Jas. F. Avery. . . — Usu Moxæ.
G. Ed. Fairbanks, — Carcinomate Uteri.

From Lausanne.

Lud. A. Perey, . — Acidi Oxalici ni venenata.

Medical Lectures in the University of Edinburgh, commence on Wednesday, October 24th.

Dietetics, Materia Medica and Pharmacy, Dr Duncan, jun. 8, *a. m.*
Practice of Physic, Dr Home, 9, *a. m.*
Chemistry and Chemical Pharmacy, Dr Hope, 10, *a. m.*
Theory of Physic, Dr Duncan, sen. and Dr Alison, 11, *a. m.*
Hospital, 12, *noon.*
Anatomy, Pathology, Dr Monro, 1, *p. m.*
Surgery, Dr Monro, 4, *p. m.*
Midwifery, Dr Hamilton, 3, *p. m.*
Clinical Medicine, Dr Graham and Dr Alison, 4, *p. m.*
——— Surgery, Mr Russell, 5, *p. m.*

Practical Anatomy under the superintendence of Dr Monro.

During the Summer Session, Lectures will be given on the following Branches of Medical Education:—

Botany by Dr Graham.
Midwifery by Dr Hamilton.
Clinical Medicine by Dr Graham.
Clinical Surgery by Mr Russell.

Medical and Chemical Lectures, London.

In the first week of October, the usual Courses of Lectures,—

1. *On the Practice of Physic*, and the *Laws of the Animal Economy*, with *Pathological Demonstrations*, will commence in George Street, Hanover Square, by GEORGE PEARSON, M.D.F.R.S. Senior Physician to St George's Hospital, of the College of Physicians, &c. &c.
2. *On Chemistry*, at the Royal Institution, Albemarle Street. By W. T. BRANDE, Sec. R. S., Professor of Chemistry at the Royal Institution, &c. &c.
3. *On Therapeutics*, with *Materia Medica*. By GEORGE PEARSON, M. D. F. R. S. &c. &c.

Professor MACKENZIE, of the Andersonian Institution, Glasgow, will commence a Course of Lectures on the Institutions and Practice of Medicine, on the 6th of November.

Medico-Chirurgical Society of Edinburgh.

IT is with pleasure that we announce the formation of a Medico-Chirurgical Society in Edinburgh. The Society is formed upon the model of the Medico-Chirurgical Society of London, and has in view precisely similar objects. Most of the Medical Professors in the University, and many of the most respectable Practitioners in the city, have cooperated in its formation. Dr Duncan senior has been elected its First President. Its sitting commences in the approaching Winter Session.

In addition to Ordinary and Honorary Members, provision is made for the admission of Corresponding Members; and it is hoped that many in almost every part of the world, and such especially as retain a grateful recollection of the advantages they derived from their Alma Mater, will not be backward in supplying interesting Communications.

Communications may be transmitted to the President of the Society, or to either of the Secretaries, according to the following addresses.

Dr ALISON, 41, Heriot Row.
Dr ROBERT HAMILTON, No. 3, Northumberland Street.

Extracts from Correspondence with THOMAS STEWART TRAILL, M.D. Liverpool, containing an Analysis of the Serum of the Blood, in which Oil was detected.

THE individual in whose blood I lately detected *oil*, has since been attacked with well-marked inflammation of the liver, for which he was bled by his medical attendant Mr Parr. To the kindness of that gentleman I was again indebted for some of the serum of his blood, which exhibited the colour and consistence of that described in the 67th No. of your Journal.

Its specific gravity = 1.018438, being somewhat less than the serum of the blood formerly drawn.

The bottle by which the specific gravity was found, contained 281.7 grains of serum; and this quantity was slowly evaporated on the hob of a grate, until the watery part was wholly dissipated. The surface of the coagulum was covered by a very sensible portion of oil, which was transparent, of a yellowish colour, and perfectly fluid when hot, but became solid, opaque, and grayish white, at the usual temperature of the air.

I succeeded in removing the whole of the oil while it remained fluid, by successive applications of slips of bibulous paper, which had been previously weighed. The brittle coagulum was also broken

down, and gently heated between folds of the same, until it ceased to stain the paper. The weight gained by the paper = 6.9 grains.

After the separation of the oil, the brittle coagulum weighed 39.5 grains.

From this the saline matters were separated by soaking it in distilled water; and the fluid, when evaporated, yielded 1.8 grain, principally consisting of cubic crystals of muriate of potassa and soda, with some lactates. Hence the solid matter of the serum consisted of 37.5 gr. albumen, and 1.8 gr. of saline matter. We may then estimate the composition of 281.7 grains of this curious serum as follows.

Water	= 235.5	or in 100 parts	= 83.59
Albumen	= 37.5		= 13.31
Oil	= 6.9		= 2.44
Salts	= 1.8		= 0.65 nearly.

It appears to differ from healthy serum, not only in containing a considerable quantity of *oil*, but in a great excess of albumen, and a diminution of the saline ingredients; for, according to Berzelius, human serum contains about 8 per cent. of albumen, and 1.4 per cent. of saline matter.

I have some prospect of obtaining the blood of the same person in health, when a comparative analysis may throw some light on the change induced by disease.—*Liverpool, June 12th*, 1821.

The milky appearance of human blood has been remarked by different physiologists; and the following passage from the Philosophical Transactions of London for 1666, alludes to a phenomenon similar, in all probability, to that now under consideration.

"A curious *person* wrote, not long ago, from *Paris*, that they had, in the *house* of a *physitian*, newly opened a man's *vein*, wherein they found *milk* instead of *blood*.

"This being reported to *Mr Boyle* at *Oxford*, his answer was, *That* the like *observation*, about white *blood*, had been made by a learned *physitian* of his *acquaintance*; and that the *thing* being by him looked upon as remarkable, he was desirous to have it very circumstantially from the same *physitian* himself, before he would say any more about it."—*Phil. Trans.* Vol. I. p. 100.

Liverpool, 26th July.

In our Number for April (p. 318. of this Volume), we noticed the commencement of the new Quarterly Journal of Experimental Physiology, by Dr Magendie. We have now to announce the arrival of the three first Numbers, viz. for January, April, and July; and we are happy to remark, that the execution of this work promises to sustain the high reputation of its Conductor. Although the matter which is contained in these Numbers is at once novel, various, and important, yet as our limited space does not permit us to give any detailed account, we shall, for the sake of our more remote readers, subjoin a mere notice of the articles in each, with the hope that, at some future period, we shall have an opportunity of bestowing on them a greater portion of our attention.

The Number for January presents the following Articles:

1. Memoir on the Mechanism of Absorption in Animals with red and warm Blood. By M. Magendie.
2. Memoir on the Organs of Absorption in the Mammiferous Animals. By the same.
3. Note on a new Extract of Opium. By M. Robiquet, Professor at the School of Pharmacy of Paris.
4. On the Introduction of Viscid Fluids into the Organs of Circulation. By M. Magendie.

5. Experiment on Rabies Canina. By M. Magendie.
6. Memoir on the Lymphatic Vessels of Birds. By M. Magendie.
7. On the Inflammation of the Spinal Chord. By M. Pinel, jun., M. D.
8. Experiments on Veratrine. By M. Midral, jun.
9. Note on the Nerves which go to the Whiskers of the Seal. By the same.
10. Note on the Seminal Vesicles of the Guinea Pig, and on the Fluid contained in them, compared with the Fluid of the two Vasa Deferentia. By the same.
11. Memoir on the Structure of the Lungs of the Human Subject; on the Variations in this Structure in different Ages; and on the first Origin of Pulmonary Phthisis. By M. Magendie. With a Plate.
12. New Analysis of Quinquina. By Mess. Pelletier and Caventou.
13. Anatomical and Chemical Researches on a Case of Chronic Hydrocephalus. By M. Breschet, Chief of the Anatomical Studies of the Faculty of Medicine of Paris.

The Second Number, published in April, contains the following Articles:—

1. General Reflections on the Circulation of the Blood. By M. Magendie.
2. Memoir on the Action of the Arteries in the Circulation. By the same.
3. On Spicula occurring in Complicated Fractures. By Messrs G. Breschet and L. R. Villermé.
4. Experiments on the Eighth Pair of Nerves. By Mr Broughton. *Translated from the Number for January of the Journal of the Royal Institution.*
5. On the Influence of the Motions of the Chest, and Efforts in General on the Circulation. By F. Magendie.
6. Memoir on the Theory of Vision. By M. Vallée. With a Plate.
7. Report on a Memoir of M. Audoin on the Thorax of Articulated Animals and Hexapodous Insects. By M. Cuvier. With a Plate.
8. Physiological Memoir on the Effects of Mercury on the Animal System, ascertained experimentally. By M. Gaspard.
9. On the Accidental Entrance of Air into the Veins; on the Sudden Death which it Occasions; on the Means of preventing this fatal Accident, and obviating its Effects.
10. Case of Accidental Introduction of Air into the Jugular Vein of a Horse which had been blooded for Pneumonia, the fatal Effects of which were obviated by the immediate Renewal of the Operation.
11. On a Motion of the Spinal Chord isochronous with Respiration.

In the Third Number (for July) we find the following Articles.

1. Theoretical and Experimental Researches on the Mechanism of the Motions and Attitudes of the Human Subject. By F. Roulin, M.D.
2. Effects of Herbaceous Aliments on the Human Economy. By B. Gaspard, M. D.
3. Additional Experiments on Mercury, &c. By the same.
4. Observations on the Bite of the Viper. By the same.
5. Memoir on Vomiting. By M. Piédagnel.
6. Cancer of the whole Stomach, with Vomiting. By M. L. F. Gondret, M.D.
7. Physiological and Medical Experiments on the Acetate of Lead. By B. Gaspard, M.D.
8. Case of Malignant Intermitting Fever cured by the Sulphate of Quinine.
9. On the Mechanism of Muscular Ruptures. By M. Roulin, M. D.

Preparing for Publication.

In the Press, and speedily will be published, a Translation of LAENNEC's Work on the Diseases of the Chest, new arranged and condensed into one volume. By JOHN FORBES, M. D. Penzance, Cornwall.

ERRATA.

In the concluding paragraph of Dr GAIRDNER's Case of Abdominal Tumour, the third line, page 409, should run—"the case further shows the insidious nature of the disease; indeed the disease was here scarcely at all observable," &c.

IN the Notice of Professor Kühn's edition of the Greek Medical Writers, contained in the last Number of the Edinburgh Medical Review; instead of "the Work is formed on the plan of the *present Greek Classics*" read, "the plan of the *Bipont Edition of the Greek Classics.*" It may also be added, that the Work is expected to extend to thirty volumes.

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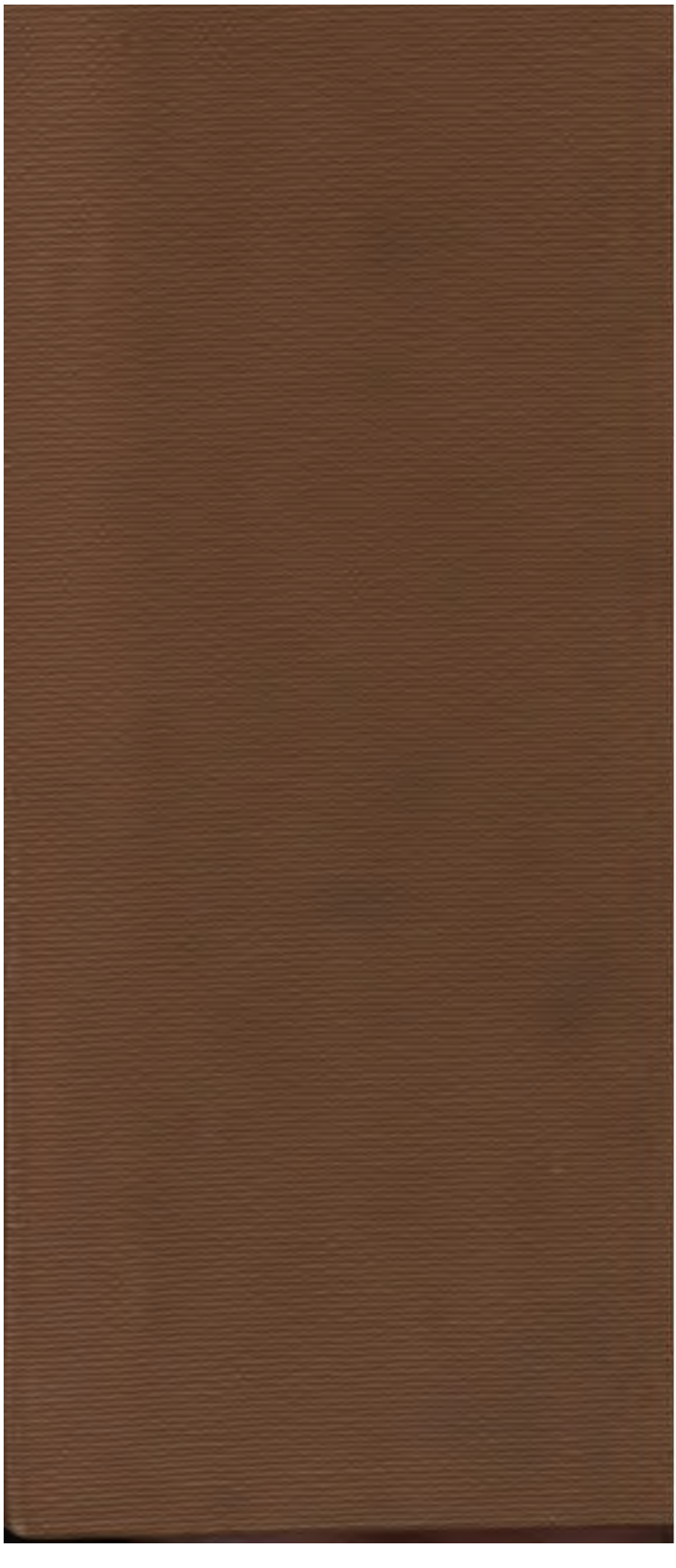
Edinburgh.—Printed by J. Hutchison, for the Heirs of David Willison.